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EDITORIAL.

The first article, by Mr. Stein, was admitted with some hesitation. Its appearance here by no means involves editorial assent to the ideas set forth, some of which the editor believes mistaken. It discusses a great subject, and one of concern to teachers, and, as such, it is hoped it may have the quality of suggestiveness.

Dr. Margaret K. Smith's article presents a new answer to the problem, now so pressing and so often discussed of late, why our young people in high school and college have so poor a command of their mother tongue. The writer's suggestion that it is due in part to the preponderance of words presentative of objects of sense and action, so easily lost in aphasia because the sensory image is so adequate a substitute, over those words that name psychic processes alone, is a point so well taken that it should command the attention of every teacher of English.

Mr. Bucke has sought to sum up the educational value of the domesticated dogs. He has used the questionnaire method and gone over the literature of the subject so that his paper sheds suggestive side lights on the psychic traits of dogs and on the phylogeny of children's interest in them. Similar articles on the cat, horse, canary and other animals are in preparation, and the article on Oliver, the Tame Crow (*Ped. Sem.*, March, 1903,), belongs in this list.

Librarian Louis N. Wilson prints three hundred and forty-four titles on child psychology, as the bibliography on the subject for the year 1902.

As this number completes Volume X, the index, also by Mr. Wilson, is appended.

AN INTERNATIONAL PHONETIC CONFERENCE.

By ROBERT STEIN, United States Geological Survey, Washington, D. C.

Now that Mr. Carnegie has taken the spelling reform under his protection, we may soon find out whether money can make this mare go. The gait of this particular steed has never yet come up to the famous description,

"Quadrupedante putrem sonitu quatit ungula campum."

Most of the time, in fact, it seemed doubtful whether the poor quadruped was making any progress at all.

Two methods of reform have hitherto been tried: (1) the instantaneous, (2) the gradual. Neither of them has yet emerged from the heroic age.

Not even the subscribers read those journals of "orthografi," with spelling completely reformed, which have been published with such admirable persistence for thirty years or more.

The "frends" of the gradual method, headed by the public-spirited firm of Funk & Wagnalls Co., "hav" continued with equal devotion to write "thoro" and "thru," hoping that in time the public would get used to these "clipt" forms. In the main they have merely earned the reputation of being "a little peculiar."

Yet there can be no doubt that the Chinese wall which has hitherto shut out hungry millions from the delectable land of knowledge is tottering to its fall. All the air is loud with the crusade against illiteracy. All over the world, most of all in Germany, the home of education, the conviction is gaining ground that the schools are not doing a tithe of what they might do for the pupils. This simply means that better use should be made of the brief eight years of school time. "Time is money"—time is education. Now the English language contains about forty sounds and hence ought to have about forty letters. Place a child in a schoolroom with forty other children, and in a month it will know their names and faces. In a month, likewise, it will know the looks and use of forty letters, if they always represent the same sounds. This is not a mere supposition. Experiments have proved that, with a phonetic alphabet, children do learn to read and write in two or three months and need no further spelling lessons. When this fact be-

At the moment of going to press the author's attention was called to the Association Phonétique Internationale, numbering over 1,000 members. Secretary: Prof. Paul Passy, 20 rue de la Madeleine, Bourg-la-Reine, Seine, France. Its organ, "Le Maître Phonétique," uses an alphabet which, though susceptible of considerable improvement for purposes of popular use, would form an excellent basis for the discussions of the proposed conference.

comes generally known, will any teacher have the heart to waste two, three, four years of the pupils' time in forcing them to learn the absurdities of the present spelling? With a ready means at hand to render illiteracy impossible, will educators hesitate? It is inconceivable. "The way to resume is to resume" was the reply made to those who expatiated on the "insuperable difficulties" of the resumption of specie payments. And we resumed. When, through the demand for better education, the nuisance of our spelling anarchy has become sufficiently acute, we will conclude that "the way to reform is to reform."

The problem is to find the line of least resistance. Other things being equal, that method will be best which will least disturb the routine so dear to the average human being. Routine, after all, is but another word for nature; it means a tremendous economy, and hence will always prevail. Yet nature, though identical with routine, is perpetually introducing innovations. Let us watch how she does it, that haply we may learn her trick of undoing routine by routine.

One of the most successful, most marvellous, most envied of nature's creations is the wing of a bird. Now we know that, not so very many million years ago, there were no birds. The ancestors of the present birds were fishes, resembling the present mud fishes of South America, Africa and Australia. Whence came the wings? Did they sprout suddenly from a certain pair of fishes? That is not the way nature works. The organs which in the distant future were to be wings were already in existence on the fish's neck and performing a most useful function—that of swimming. They were a pair of fins. In the mud where the creature lived, these fins were occasionally used for crawling. The fish that did not crawl well enough were apt to be overtaken by death before they had a chance to propagate their kind. Their removal left the survivors with a higher average capacity for crawling. In this way the fin from generation to generation became more adapted to serve as a crawling organ. In like manner, when the fish took to the land in the form of a lizard, the crawling function changed to running; as the lizard climbed trees and the scales along the edges of its tail and along the ulnar edge of its forearm became frayed into parachutes of feathers to lengthen its leaps and to lessen the risk of falling, the outspread forelimbs served to increase the buoyancy; by moving these stretching-organs, the direction of the leaps could be altered, and thus the arts of flapping and soaring were acquired, and the original fin and subsequent foot finally became the perfect wing.

In other words, when nature wishes to create a new organ, she takes hold of an existing organ, already performing an im-

portant function, and she gives to this organ an opportunity to perform now and then a new function. As the occasions for so doing become more frequent, the organ becomes more and more adapted thereto, till finally the new function constitutes its main employment.

The parable is not perfect, but that matters not so long as it illustrates our case. Where can we find the fin from which we may evolve the bulkless, weightless wing of a perfect alphabet, the unhandicapped vehicle through the realms of knowledge? In other words, is there in use, in some branches of writing, a fairly phonetic alphabet, which may be adapted to general use, and can its present function be so extended that it may gradually penetrate into all the departments of writing, *side by side* with the present spelling, till it ousts the latter into "innocuous desuetude?"

Every adept knows the answer. Phonetic alphabets, more or less alike, are in use for three purposes:

(1) In phonetics and linguistics;

(2) In dictionaries, grammars, language manuals, primers and readers;

(3) By spelling reformers.

That is a goodly array of functions, amply sufficient to give vitality to an alphabet and to insure its growth into greater and greater currency. Why have they not produced this result?

The answer is evident: there has been no agreement among the users of these alphabets. Even the most famous, the Lepsius alphabet, is hardly known outside of a very limited class. Yet a moment's reflection shows that the usefulness of dictionaries would be greatly increased if their makers were to agree on a uniform system of indicating pronunciation. By constant repetition, this system would become familiar to the public; being, as a matter of course, extremely simple, it would inevitably be taught in the schools and be mastered by every dictionary-user as a valuable aid in the use of his own and other languages. At present, if you wish to ascertain the pronunciation of a certain word, you have to consult the "key." And if you learn a key by heart, why should it not be a universal key, which will help you through any dictionary and which can also be used by phoneticians, as well as for ordinary writing?

On considering the chances of such an agreement, one fact becomes at once apparent: that we are not dealing with a vast indifferent or hostile public but with persons *interested in phonetic spelling*. The significance of this difference needs no emphasis. To work for an agreement among the general public or even among the limited classes of authors, publishers and educators, would be a labor of Sisyphus; to unify the efforts of

three classes of people already trying to spell phonetically ought to be an easy task. Along this line, therefore, there will be practically no resistance; the most inveterate enemy of the spelling reform will welcome a universal "key" to pronunciation.

The words "other languages," used a few lines back, must have at once suggested the conclusion that, in order to secure the desired advantages to their full extent, the agreement must include the phoneticians, lexicographers and spelling reformers of all the civilized countries. In fact it is difficult to imagine any other kind of agreement. And if a phonetic system is to have the best chance of coming into general use, it must of course at the outset be given the greatest possible number of functions and the widest possible currency, that is to say, it must be world-wide. To move the huge rock of apathy, the reformers cannot afford to neglect anything that promises additional power.

A brief survey of the facts will show that an international agreement on a universal spelling is on the one hand entirely feasible, and on the other will secure additional benefits.

The fact that there are people is other lands who think their spelling needs reform, may be pleasant news to some English-speaking people, on the principle that misery loves company. Let us for a moment enjoy the luxury of looking over other people's faults.

French is perhaps the nearest rival of English in this respect. In the word chauffaient, 11 letters are used to express four sounds. Eaux is pronounced o, or if x is sounded, it is changed to z.

"Pronounce the letters as in Italian," is a direction frequently given, as if Italian were a model of correctness. What, then, are we to think of the trick of inserting an h in the plural of poco and luogo (pochi and luoghi), to prevent the c and g from changing their sounds?

A French reformer writes (with reformed spelling): "Bon gré mal gré, nous finirons par avoir une ortografe à peu près racionèle, comme cèle des Espagnols." No doubt the Spanish orthography is the best in Europe, but yet its reformers might as well have made a clean job of it and left it perfectly "racionèle." Had they had the consistency to write z wherever c was pronounced z (voz, plural voces), they would not have been obliged to change the c of tocar into qu in toqué.

Portuguese spelling may be judged by the fact that one sign, x, has four sounds, making it almost a rival to English a.

The interesting Rumanian nation, destined to form so important a member in the future Latin League, did a very sensible thing in discarding the Cyrillic for the Latin alphabet. However, they cannot be said to have fully improved the

magnificent opportunity of starting afresh with a perfect alphabet, else they would not have dreamt of writing ţ for ts or ş for sh or sc for sht.

Germans are apt to assert that their language is pronounced as it is written, but that is simply because the defects of their spelling have become second nature to them. The present writer distinctly remembers the feeling of revolt that crept over his quadrennial soul on being told that Leute and läute were pronounced loite. For years he vainly tried to distinguish in the sound of sch the sounds of the three constituents, s, c and h, which, some of his teachers gravely told him, were to be heard in the combination. These are phonetic mortal sins.

Dutch is not much better off. The e in vier is just as useless as in German. To sound eu as in French may be elegant, but it is not phonetic.

Danish orthography is better, but it has its silent d in bordet and uses aa to express the simple sound resembling English aw.

Crossing the Sound into Sweden, we enter a realm of singular alphabetic perversity. On quoting to a Swedish friend the lines

> "Känner du landet, det härliga, rika,
> Badadt i Mälar och Östersjövåg?
> Hemmet af skördar och minnen tillika,
> Fredliga bragder och vikingatåg?"

the writer was thunderstruck to hear the reply: "That is very interesting, but you ought to say chenner and Östershö and shördar and ok."

Coming to the Slavic languages, we find that Bohemian had the good fortune to be endowed, 500 years ago, with the most consistent alphabet in Europe, by a man of genius, the reformer John Huss, who, being ahead of his age in divers other ways, was finally silenced by the cogent argument with which our forefathers were wont to bring other people over to their views. It is to be regretted, however, that, in his zeal for consistency and phonetic purity, Huss resorted to so many accents, hooks and circles, that a line of Bohemian often looks like a file of Hussite warriors with helmets, spears and halberds, gathered to defend their "jazyka dar" and other valuables. In this way one is often obliged, after finishing a word, to go over it again and furnish every letter with some sort of headgear.

The same is true in some degree of Polish, which, however, is less phonetic, in that the simple Bohemian sounds ř and š are in Polish expressed by the combinations rz and sz.

Russian commits some strange extravagances. O is sometimes pronounced like short German a, while a in turn is some-

times pronounced o; the g of the genitive is pronounced v, so that the word which looks like durnago is pronounced durnova. For f you have the choice of two letters, one being the Greek theta, which the Russians, unable to pronounce th, turned into f, like the colored brother who talks about his "mouf."

Last in this sinful catalogue is Magyar (Hungarian), which displays its chief inconsistencies in its very name, pronounced modyor.

But our joy on finding that we are not alone in our trouble is at once clouded by the discovery that our fellow delinquents have reformed, at least partially, while we have merely agitated. The greatest reform on record was that accomplished by the Spanish Academy about 1846. Most interesting, to English-speaking people, is the movement in France, which during the last ten years has shown vigorous growth and has at last culminated in governmental action. "Le Réformiste," edited by Jean S. Barés (18 rue du Mail, Paris), now in its "setième anée," is probably the best journal of its kind in the world. Its wealthy editor distributes 50,000 francs a year to journals that aid his cause. That bespeaks a degree of earnestness which we have not yet reached in England or America. In fact, it would be altogether in keeping with precedent if the "logical nation," having once made up its mind, were the first to adopt a system of writing as perfect as the metric system which it gave to the world one hundred years ago.

In these efforts each nation proceeded without regard to its neighbors. Thus it is that Italian che and Spanish que, though identical in sound and meaning, are written differently; that the French write the preposition à with a grave, the Spaniards with an acute accent, á, the Italians without accent; that the Germans have adopted for ss a sign ß, which to all the rest of the world looks like a B; that the British Admiralty and the United States Board on Geographic Names have established the rule: "j as in English; dj should never be used for this sound;" though in so doing they unnecessarily set a dangerous trap for foreigners, besides committing a serious offense against phonetic purity.

Hitherto, in fact, another procedure would hardly have been possible. The reforms would probably have died before birth if each nation had waited till the pleasure of others could be known.

But in this matter, as in many others, time has wrought a change, nay, a reversal. Interdependence among nations grows daily. Every nation now considers the world its market. The knowledge of foreign languages is becoming an ever-growing necessity. Astronomers have parcelled out the heavens

among the nations of the earth. Practically all the sciences are organized internationally. The other day we came near having one steamship company the world over. Soon, no doubt, we shall have an international postage stamp. The gold standard having become universal, we may soon behold Mr. Albert Herbert's international coin, which in its turn will bring other conveniences. Of course, since progress is made by learning from one another and by division of work, every such removal of international barriers is to be welcomed.

From this point of view it is difficult to imagine a fitter subject for international treatment than the spelling reform. If nations are to communicate more freely, they must have increased facilities for learning one another's languages, the very instruments of mutual instruction; and of course nothing could promote that object more effectually than an identical mode of writing.

This argument touches what is said to be a particularly responsive chord in Mr. Carnegie's mind. Believing that English is destined to be the world language, he would hasten the coming of this boon of a common speech. Now it is evident that, if the spelling reform were so managed that every foreigner trying to learn English should find our spelling (aside from a few special sounds) exactly the same as his own, the expansive power of the language would be raised to the highest degree.

Shall we then consult not our convenience but that of foreigners? That, of course, would be absurd. But we are not confronted with any such dilemma. It so happens that in this matter everybody's convenience will be best served by co-operation. On inquiry, we find the following facts:

(1) About 90 per cent. of the sounds of the other civilized languages are practically the same as in English.

(2) The letters used by the great majority of civilized people are the same and mostly represent the same or similar sounds.

(3) The points in which our alphabet is most defective are the very ones that call for reform in the other languages. The reason is that the Romans did not know the sounds of sh, ch, j and various vowels, and hence developed no signs for them. These, therefore, in post-Roman languages, had to be expressed by combinations, necessarily chosen haphazard.

In other words, the civilized languages are already, for the most part, spelt alike; and in making the improvements which will render their spelling phonetic, there is no reason why the same letters should not be used in all languages for the same sounds. The few special sounds of each language would, of course, be expressed by special signs.

In point of fact, the reformed alphabets that have been proposed for various languages show a decided mutual approach, for the reason that, in obedience to the necessities of the case, they all attempt a more or less complete return to the Roman alphabet. Were these reform movements to progress in mutual disregard, they would lose the immense advantage of a concerted movement toward a common goal, and establish needless barriers which would have to be removed later on. Why build up a system that will have to be undone again, when you can just as easily, more easily in fact, establish a permanent system all over the world? Knowing the agony of one spelling reform, who could have the cruelty to expose any nation to the risk of two reforms?

Take, for example, the sound expressed by English sh. This sound exists in French and Portuguese (ch), Italian (sc or sci), Rumanian (ş), German (sch), Swedish (sj, sk or skj), Bohemian (š), Polish (sz), Russian (ш), Hungarian (s), and in the second element of Spanish (or English) ch. For this simple sound, Murray's new Historical English Dictionary proposes the sign ſ. There is no reason why the other nations, in trying to render their spelling phonetic, should not adopt this very convenient sign, or, if a better sign be proposed, there is no reason why we should not conform to that; but there is every reason why a sign once adopted should stay adopted. This can only be secured by a common agreement beforehand.

Another consideration. The spelling of some languages, Spanish above all, but also Italian, Bohemian, Hungarian, is so nearly phonetic that the few changes needed to make it perfectly phonetic would cause but little disturbance. Again, Russia seems to be on the eve of a great educational movement. Nicholas II is said to be anxious to earn the title of "Tsar Educator." At the same time the Russians wish to make their rich, flexible, sonorous language a world language, on a par with English, French, and German. For both these purposes, nothing could be more serviceable than the adoption of the Roman alphabet, which would, moreover, constitute a powerful bond between the eastern and western Slavs. If now the Roman alphabet were presented to the Russians in a universal phonetic form, enabling any child to learn to read and write in two or three months, and thus rendering illiteracy impossible, even with the most meager school facilities, it is inconceivable that they would adopt any other system. Over 200,000,000 people might thus, with great advantage, adopt the universal spelling at once—a potent means to give it currency.

Let us see how far we have got in our argument.

The attempt to persuade *the general public* to consent either to the immediate adoption of a phonetic alphabet, or to the successive introduction of slight reforms, involves such appalling labor as to appear well nigh desperate.

On the contrary, the attempt to secure an agreement on a uniform system among *the people interested in phonetic spelling* is practically sure of success.

Such an agreement must be international, for ten reasons:

(1) The very object of any agreement is to secure currency for the system agreed on, and of course, the wider the agreement, the greater the currency. Momentum is directly proportional to mass.

(2) The science of phonetics, for whose sake, in part, the agreement is sought, deals with the sounds of all languages. A "national" agreement among phoneticians would be absurd.

(3) National agreements, national conferences have hitherto been sought almost exclusively as *side issues* to something else, for the reason, no doubt, that no other method was practicable. Now every one knows how much attention is bestowed on side issues. What happens? In order to secure a quorum, every one who shows the least interest in the subject is admitted. The natural desire to "do something" leads to the taking of a random vote after utterly insufficient discussion. The proper method is a conference composed of none but *experts*, who shall make the spelling reform the *sole issue*, shall consider it not hurriedly in a few hours snatched from "more important business," but leisurely, for weeks and months, if necessary—men to whom the ideal alphabet has been the subject of daily thought for years, who will instantly perceive the bearing of every new idea, and, above all, are willing to change their opinion at any moment for a better one. Only a few men of this stamp could be found in each nation, and fewer still would have the necessary leisure. Hence, in order to embody a sufficient number of eminent men to give weight to its decisions, the conference must be international.

(4) Dictionaries, grammars and language manuals, circulating in all lands, require a "key" to pronunciation which shall be familiar to readers everywhere.

(5) At least 90 per cent. of the sounds of civilized languages are practically identical, so that it would be absurd for the several nations to try to render their spelling phonetic and yet write those sounds differently.

(6) Designers of phonetic alphabets for one language only are constantly tempted to tolerate phonetic impurities sanctioned by long usage. Thus many English alphabets contain special signs for the compound sounds of i in fine, u in use, or

compound signs for the simple sounds of th, sh, ng. Germans and Italians might shrink from the superhuman effort of writing ts instead of z. An international conference would be the surest means to prevent such truckling to national sluggishness.

(7) Any phonetic system will require the highest authority to give it standing. Many persons who would have little respect for a national conference will bow before an International Conference, for the reason, among others, that the system adopted by it would become the key to foreign languages.

(8) Hitherto, phonetic alphabets have been *proposed alphabets*. Before making up his mind whether a proposed thing is cranky or sound, does the average man weigh its merits and demerits? Not at all. He waits until it is *accepted*. The alphabet of the International Couference will be the *accepted alphabet*—accepted by the highest authority. That is what the average man wants. Nothing succeeds like success.

(9) Several nations are likely to adopt the universal spelling at once and thus give it greater currency the world over.

(10) Perhaps the most serious obstacle to reform is the fact that the amended spellings look *odd*. In the whole list of desires which evolution has nursed into existence in the human breast, none is stronger than the desire to be *fashionable*. It is the old (and, of course, hitherto on the whole, beneficent) instinct, inbred through the experience of millions of ancestors: "So long as you are with the herd, you are safe." It is so uncomfortable to be thought "peculiar;" it is sweet, O so sweet! to know that the world thinks our behavior "good form." A breach of the commandments is nothing; a breach of etiquette makes your hair stand on end. People are ready to undertake the most inhuman labor in order to be "in the swim." Thus the prestige of so distinguished a body as an International Phonetic Conference, rendering the universal spelling fashionable, might be the very means to induce people to put forth the slight effort required to master it. And when Lulu begins to write to Leander in the universal spelling, because "it is quite the style, you know," it will indeed be time for spelling reformers to exclaim: "Now dost thou, O Lord, dismiss thy servants in peace!"

Having got so far, the reformers might rest on their arms, in the well-grounded confidence that the universal spelling would make its own way by the very force of its universality and simplicity. But of course they will never rest, so long as the snake is merely scotched, not killed. Before inquiring how the gradual spread of the new system may be accelerated, we must hasten to find out how it will look.

The first thing the conference will have to do will be to define the principles on which to proceed. Some of the schemes of reform heretofore proposed have been almost as complicated as the old spelling. In reality, two simple rules suffice:

(1) Find out how many sounds there are in each language;

(2) Provide an equal number of letters, no more, no less.

All else is corollary, and very simple, too.

(3) Express identical sounds by identical signs, similar sounds by similar signs.

(4) Use no diacritic marks.

(5) None but the Roman alphabet can at present be made universal.

(6) Break with existing usage as little as possible.

(7) Small script is the only form needed.

While English contains only about forty sounds, every child is at present compelled to learn four forms for each letter (in German 8), making in all 104 letters (in German 210). Think of wearing a pair of shoes weighing eight pounds!

(8) So far as compatible with the above principles, let the letters express the relationships of the sounds.

To illustrate the working of these principles, a table of phonetic symbols is herewith presented. It is believed to contain a sign for every well-marked sound in English, French, German, Italian, Spanish, Portuguese, Rumanian, Dutch, Danish, Swedish, Bohemian, Polish, Russian and Hungarian. To avoid overloading, the examples are mostly confined to English, French and German, the letters to be illustrated being in each example marked by a dot or dots. Symbols in parentheses are for phoneticians only, though some of them might perhaps with advantage be included in the popular alphabet. Needless to say, this table does not claim to become the universal alphabet. The fewer "claims" are brought to the conference, the better will be the chance of agreement. Space will not allow a discussion of the table. Criticism of it will be highly welcome.

In the confident hope that the Spanish-speaking nations will not neglect the incomparable opportunity to become the leaders in a movement of such transcendent benefit, by adopting the universal spelling at once, the changes for their language have been minimized, ȝ being used for English th and Spanish j being retained.

The pronunciations here implied do not pretend to be the standard. The conference is to agree on the symbols for definite (or approximately definite) sounds; what sounds are heard in this or that word, remains for experts in each language to settle.

Too many cooks might spoil the broth. One or two phonetic experts from each country will suffice. The man who wants

five different signs for the e in bee, feet, seal, cheery and fear, would be a marplot. For greater prestige, the conference ought to be held under government patronage.

It would be unwise to depend on one conference. After a thorough test of the system agreed on, a second conference, with new suggestions of graphic devices and more precise information regarding the best pronunciation, may be in position to adopt a definitive system.

The main object of the conference is *to create the universal alphabet.* In thus fixing a common goal, it will unify all advocates of reform into a solid phalanx with single aim.

Having accomplished this, its essential mission, the conference might as well go home, knowing that the task of *introducing* the new dispensation will have to be performed by each nation for itself. But of course the conference will not disperse without discussing this problem. Methods will differ with different languages. In Spanish, as before noted, the change would interfere with legibility so little that there would be no reason for making it gradual. If the Russians adopt the new spelling, they will naturally make it the ordinary vehicle of instruction at once in all the primary schools and progressively in the higher grades, the Cyrillic alphabet being continued for a while as a secondary subject. For English, French and German, an experiment made in St. Louis is suggestive.

In that city, an alphabet invented by Dr. Edwin Leigh was used in the lower grades. It consisted of some 75 characters, some quite complicated, so that, with the addition of the silent letters in hair-line type, it was far more difficult than a perfectly phonetic alphabet would be. Yet Dr. W. T. Harris, United States Commissioner of Education, reports on it as follows:

"This showed a saving of from one and a half to two years in learning to read. It was found, moreover, that these children not only learned to read rapidly, but that they learned to spell *the ordinary spelling* more correctly than other pupils."

Of course, the universal spelling would not print silent letters, but since it would depart from present usage as little as possible, there can be no doubt that children who had learned to read by the new system would also be enabled to read *the present spelling* more readily. It would scarcely be harder than it is to read Shakespeare in the spelling of 1623. After this fact had been established by actual trial, it would, of course, be unpardonable for any teacher to begin with any other than the universal spelling.

And now the line of least resistance lies tolerably clear before

us. The successive étapes of the campaign would appear to be as follows:

(1) The first conference recommends a provisional alphabet.

(2) This having been tested, a second conference adopts a definitive alphabet.

(3) This will supply a want long felt by phoneticians, dictionary makers, teachers of languages and spelling reformers throughout the world. Many other persons will find it advantageous to learn it. Some who scoff at the idea of a phonetic alphabet for English will hail it as the key to other languages and thus undermine the resistance to reform in their own minds.

(4) The universal spelling having, through familiarity, lost the appearance of oddity, and having become the standard indicator of *pronunciation*, is taught *for that purpose* in schools (perhaps in "back-hand" form).

(5) A few schools try the experiment of beginning with the universal spelling, passing over to the old spelling only in the second or third grade.

(6) When in this way children learn to read and write in two or three months, become incapable of spelling-mistakes (provided their pronunciation be correct), and master even *the old spelling* more easily, there will arise an irresistible demand to have the universal spelling used in all the schools, the old spelling receiving less and less attention.

(7) When a new public has been thus developed, newspapers and magazines will find it to their advantage to use the new spelling. The demand for the old style of publications will practically cease in about forty years.

Financial power may be exerted with decisive effect in supplying the new type to printers, in offering prizes to teachers and schools using the new system, in publishing text-books, standard authors, and juvenile literature, which, issued by one firm in millions of copies, could be sold at a nominal price.

Thus the humble fin of the Lepsius alphabet, devised in 1853, may in less than a century be developed, by what may be termed "assisted evolution," into the glorious wing of a perfect universal writing. Resistance need not be overcome at all; it may simply be evaded. The present public need not be asked to alter an inherited habit which has become second nature; a new public will simply be made to grow up with a better habit.

Various circumstances combine to render it desirable that the initiative be taken by France. The language of the conference must necessarily be French, the present universal language; the meeting-place, Paris. No other government could so readily secure the co-operation of the other Latin countries

and of Russia. Divining, with true instinct, that internationalism will some day dominate nationalism just as nationalism now dominates provincialism, France is wisely securing to herself the honor of the leadership toward the republic of humanity. Nowhere are the agencies for international fraternization so numerous; nowhere is the phrase "The United States of Europe" so current as in the land where it originated. A conference intended to improve the very means of international communication, the written language, could hardly be called into being by another nation without encroaching on the well-earned privilege of France.

Again, the one great desideratum for the universal spelling is that it shall become *fashionable*. Nothing could be more conducive to this end than the initiative of a nation whom the world recognizes as the leader of fashion, the arbiter of good taste.

One more reason. Our busy philistines have become used to the domestic clamor for reform; they have in their offhand way decided that it is a "fad" and "impracticable." An invitation from the nation whose orthography is supposed to be even more irrevocably fixed than ours will be the best means to startle them into reconsideration.

And the nation which one hundred years ago gave to a sleepy world the most salutary shaking-up it ever received, will not hesitate to lead humanity out of another and very dismal bondage.

NOTES ON THE TENTATIVE ALPHABET.

Before the alphabet of each language can be established (which is to be done *after* the adoption of a definite universal alphabet by the conference) two points will have to be settled:

(1) A standard pronunciation will have to be agreed on, showing how many sounds there are in the language.

(2) That *within one language* every sound should have its own sign is evident. Not so evident is it that one sign might not be used for slightly different sounds *in different languages*. It may well be debated whether English d, t, r, short u and i, and the a in far, differing as they do but slightly from the nearest sounds in continental languages, should be discriminated from them in writing; in other words, whether some of the signs here given in parenthesis, as for phoneticians only, might or might not be used also in the popular alphabet.

Assuming, for the sake of illustration, that this question were decided in the negative, the Washington pronunciation of English would require the following alphabet of 42 signs:

Tentative Universal Alphabet aiming to express the *elementary* sounds of the principal European languages by invariable *simple* (not compound) signs.

CONSONANTS

			LABIAL		Labio-Dental	Lingu-Dental	LINGUAL			PALATAL			Palato-Nasal	Glottal	
MUTE	EXPLOSIVE	SURD	p E. pin F. pin G. Pein			(ɭ) dental ţ		ţ F. tôt G. ţot	(ƭ) E. ţea	(ʔ) ţ(l)	k E. kill F. car G. kuh	(k) Dutch k			(ŋ) ţ(n) South G. k(n=ng)	(h) spiritus lenis	IMPROTRACTILE
		SONANT	b E. bin F. bain G. Bein	(b) Spanish beber		(ɖ) dental ḍ		ḍ F. ḍû G. ḍu	(ɗ) E. ḍo	(ɗl) ḍ(l)	g E. go F. gage G. geh				(ɗl) ḍ(n) South G. g(n=ng) sebmy		
	EFFUSIVE	SURD		φ Greek φ	f E. far F. fin G. schlafen	ʃ E. thick Sp. voz	(ʃ) G. laṣ	s E. ṣee F. ṣon	ʃ E. ṣhe F. ṣhou G. ṣchau	l Welsh ll	ʃ G. miṣh			ʃ Sp. reloj G. doch			
		SONANT			ƒ G. Hafen Vater	ʒ E. thee	(ʒ) G. ṣah	ṣ E. ẓeal F. ẓèle	ʃ E. azure F. je		ʒ G. jung, regen?		q Dutch God	ʒ G. ragen?		h E. he G. her	
LIQUID	EVASIVE							l E. ell F. elle G. Elle	l Dutch l	ℓ Pol. ł Russ. л	l Sp. ll It. gl Port. lh						
			m E. me F. moi G. mich					n E. no F. non G. nein		n F. gn Sp. ñ Port. nh	ŋ E. sing G. singen				n F. an		
			w E. we	(w) G. dialect	v E. veal F. vin			(r)	ř Boh. ř Polish rz	ɾ E. are	y E. you			(ɾ) F. r			

Classified Arrangement.

pɬk bdg ʃʒsʃ ʒʂʃh lmnŋ wʋɹɣ
ɯɯ ɔɔɛ ɐɛ ɐɑ ɑɑɑ ɔa ɯɑɑ

Traditional Arrangement (*approximate*).

ɑɑaɑɑbdɐɜɛɑɸgɦɯklmmŋ
ɔɔɔɐɑɑpɾsʂʃɟɯɯʊʋɣʒʒ

Three lines from Emerson may show how English looks when printed according to this system; the immortal epitaph may serve for French; four precious lines by Kopisch, for German.

hasɬ ʒaw neymd ɐl ʒɜ burds wɪzawɬ a gɜn?
lʊd ʒɜ wudrows and lɛft ɯ an ɪts stɛm? . . .
ʒɛn bɪ mɜ frɛnd and hɪlʃ mɪ ɬu bɪ ʒayn!

sɪ ʃɪ pɪɾon, kɪ nø ʃu rɪan,
pa mœm akademɪsɪan.

dœr noa spraʃ: aʃ libœr hœr!
das vasœr ʃmɛkɬ mɪr gar nɪʃɬ sœr!
dvayl darɪn œrsoyfɛɬ sɪnɬ
al sunthaft ʃɪ unɬ mɛnʃɛnkɪnɬ.

It is not to be expected that at this early stage the appearance of the letters would satisfy all the demands of the artist, printer, or penman. To attain an adequate degree of perfection in this respect, a type-designer and a phonetic expert should work together. This of course would involve considerable outlay.

THE PSYCHOLOGICAL AND PEDAGOGICAL ASPECT OF LANGUAGE.

By Margaret Keiver Smith.

The term language refers especially to the system of articulate sounds made by the human voice primarily with a view to communication between human beings. While it is indispensable to the mental development of every human being, it is not the product of any one mind, but of minds laboring under the necessity of intercourse with one another.

With the purpose of intercourse in mind, we associate the idea of voluntary effort with human speech. Probably for this reason, notwithstanding its mechanical side, human speech is very generally regarded as a mental operation, skill in the exercise of which seems to indicate a considerable degree of mental development.

Through a comparison of persons who have a limited control with those who have an extended control of language, and especially through a comparison of the mental power of a deaf mute who has not achieved the use of language with the mental power of one who has learned to speak and write, we are justified in assuming that in the intellectual development of the human being, language performs a very important part. From such observations as have been made, we judge that the deaf mute, without the advantage of language, has a mental content of images and feelings alone, and that only through these states can an appeal reach him. His power of reflection is as limited as his power of abstraction. His physical desires are strong, and his power of self-control very weak, while his ethical sense remains entirely undeveloped. Romanes states that he has never been able to find a case where a deaf mute without education in language, and, indeed in word language, has been able to acquire any idea of supernaturalism. Even with the best aid of sign-making, *i. e.*, gestures, he has been unable to acquire any idea of a divine being.

The importance of language in connection with mental development may be perceived in the lower animals quite as readily as in the human being. The excess of intelligent attention and memory in the domestic animals as compared with the same qualities in wild animals may very well be attributed in great part to the language of human beings to which the

former in the course of ages have become accustomed. It is a noteworthy fact that in the training of domestic animals, much more dependence is placed upon the use of words than in the training of wild animals. The stories that we have of the dog and the horse, not to mention those of the elephant, or even of the bird family, lead us to infer that those animals not only understand words and sentences, but that they actually show signs of at least primitive judgments. The adaptability of domestic animals to new conditions, and even to modern inventions, may justify us in supposing that the language of ages has brought them into a close resemblance to the human animal, and that their generalizations differ in degree rather than in kind from those of man. As a rule we do not assume that even the most intelligent domestic animals surpass even the lowest of the human family, but we not infrequently hear the owner of a dog or horse proudly assert that the creature possesses more real knowledge than many a man of his acquaintance.

Through derived uses, the application of the term language has become so extended that it stands for any and all means of communication that are in any degree systematized.

Thus, in addition to the language of speech, we have gesture language, and tone language, the one indicating a system of regulated bodily movements, the other working out into a system of sounds developed from the tones of the primitive human voice.

Both gesture and tone language are designed for purposes of communication, and are adapted probably from the crude motions and harsh cries of primitive man (possibly even of the brutes) in his efforts to attract other creatures of his kind.

As a means of emotional expression, both gesture and tone serve much better than as a means of intellectual expression. Among gestures we have those that indicate states of feeling merely as pleasant or unpleasant, and gestures that indicate such emotions as fear, anger, love, pride, etc.

In the second stage we have modulated movements intended to express definite mental states, *e. g.*, the nod of affirmation, or approval, the shake of the head implying negation, or disapproval, the wave of the hand in invitation, and the wave of the hand in repulsion.

Among tones we have those that express emotional states, as the inarticulate murmur of affection, the growth of rage, the whine of fear, etc.

The second step in tone language is toward articulate speech, as the instinctive babble and chatter of the child as it imitates sounds. Something of the same tendency may be observed in the chatter of the parrot, mocking bird, etc. Possibly this step may not be regarded as a step in language, inasmuch as the

purpose of communication is not so much in evidence as in the first step. It seems more properly to be a mechanical preparation for articulate language which is to come later.

As in the case of gestures, in connection with articulate speech, tones are used in modulated and regulated forms for the purpose of enhancing the effect of words which, if used alone, would merely arouse intellectual states. The effectiveness of tone and gesture lies in their use as an outlet for the emotions, and as a means of arousing corresponding emotional states in those who are subjected to their influence.

The inadequacy of these so-called languages lies in the impossibility of their expressing many definite or complicated ideas and connected thoughts. They are both bound to sense-perception, and for the most part are very clumsy instruments in securing generalizations of any high degree of abstraction. As a matter of fact the elaboration of gesture and tone into any extended system of expression is mainly due to the use of words. No people without a well-developed system of articulate language has ever done much with the drama or with music. The highest use of gesture and tone can only be realized when they occupy a subordinate position, viz., that of supporting and emphasizing the spoken word. The skillful speaker realizes their value when he wishes to gain a hearer whom he cannot convince by reason.

The fundamental principle of all forms of spoken language is that of connecting an idea in the mind of one individual with some external sign which is intelligible to another individual. This sign becomes intelligible when it is attached to similar ideas in the minds of the two individuals. For purposes of general comprehension, this sign must be constant. With this sign as a basis, a system of expression may be arranged by means of which mental states are not only indicated, but by means of which thought is formed, defined, elaborated, and transformed into the force that moves the world.

Apart from the convenience of a means of communication, a system of expression is of the greatest importance to the individual, in that it is a means of bringing order, clearness, and purpose out of a chaos of mental content. Without a system of expression, the mind must remain confused, indeterminate, characterless, and ineffective. A writer has said that next to the hope of immortality, expression is the highest hope of the human spirit. Perhaps with equal truth we may say that without power of expression, the hope of immortality could never have been conceived.

While admitting tone and gesture to be legitimate and necessary means of expression in primitive stages of development, we must also admit that for the development of civilization, a

more highly specialized means of expression is necessary. This demand seems to be met by articulate language. As the sign of an idea, the spoken word is constant, while at the same time it admits of modification and elaboration sufficient to meet the needs of the highest intellectual development. Because it is the instrument best adapted to this use, the word has become the preferred means of communication. In every way, the use of the word is economical. Being the most conventional sign of expression, it is the least liable to be misunderstood, while at the same time it is purer and more definite, more condensed, and more effective than any other sign.

Romanes gives four divisions of articulate language. First, the meaningless imitation of sounds heard; second, the instinctive articulation of syllables; third, the understanding of articulate sounds or words; and fourth, the intentional use of words as signs or names of ideas, *i. e.*, the use of words with a meaning attached.[1]

Corresponding to the articulate side of language he gives the intellectual aspect in five stages[2] viz., first, the indicative stage, in which there is an intentional sign though it may be expressed by gesture, tone, or word; second, the denotative stage in which intentional marks are indicated by names. The name in this stage is reproduced merely by mechanical or special association. Like the first this stage is peculiar to many of the lower animals as well as to human beings, and marks no great intellectual advance. The name is in this stage merely a mechanical convenience.

The third, or connotative stage is that in which a name is given to an object by reason of some quality or qualities which it possesses. The word contains a meaning, of which the application is extended to other objects possessing characteristics in common with the first, so that a grouping is made, and the word becomes the name of a class. This is the concept forming stage, or possibly the stage of classifying and naming perhaps without a full consciousness of the extension of the application of the word. This stage probably marks the dividing line between the human being and the lower animal, as the grouping of objects on the basis of common characteristics implies a higher intellectual power than we have as yet observed in brutes.

The fourth or denominational stage is an extension and elaboration of the third, the connotative word being now applied consciously and intentionally. The last stages is that of predication in which denominative concepts are combined into

[1] Romanes: "Mental Evolution in Man," Chap. 7, p. 121. (New York, 1898.)
[2] *Ibid.*, pp. 157-162.

propositions in such a way that the content of one concept is affirmed to partake of the nature of the other to a greater or less degree.

The stages of denomination and predication so clearly indicate a higher intellectual development than appears possible to the brutes, that some psychologists and philologists, upon this ground alone, have assumed for man a special creation.

The power of articulate language as a means of mental development is shown when the word is used as a symbol or type which, while it is constant as a sign, yet is sufficiently movable to admit of such modifications of meaning as the intention or feeling of the individual may dictate. In this lies the real power of predicating, or of attributing varying qualities, or varying shades or degrees of the same quality to an object. It is the power to use one idea in such a way as to modify the application of another idea, and thus to form a new mental product the apprehension of which indicates a decided advance in intellectual development. When an individual can consciously use a word to indicate a class of objects possessing certain essential (as distinguished from accidental) characteristics in common, he has achieved the foundation for the highest mental operations.

The importance of articulate language lies in the fact that without the word, the concept, *i. e.*, the generalization, cannot be held before the attention in such a way as to form an element of thought. Without it no effective thinking can be done, and consequently no clear rule of action can be evolved. It is the agent that differentiates a definite idea, or concept from the confused mass which characterizes the content of the primitive mind. Without it, the mind must remain primitive and confused.

The need for adaptation to the conditions of a progressive civilization creates the necessity for classifying the mental content, *i. e.*, for evolving order and clearness from obscurity and confusion. The human mind in its incapability to grasp in detail the multitudes of objects that are daily and hourly forced upon the attention, is saved from fruitless and even dangerous effort by the word and the proposition which serve as a means of preserving intellectual unity.

In addition to the use of the word in controlling abstract thought upon concrete things, we find a higher use, by reason of the concept name itself becoming an object of thought, thus furnishing a new factor in the elaboration of propositions possessing a higher degree of abstraction than that brought about through generalization upon concrete objects.

To the ordinary individual who seldom rises to the region of higher abstractions, the influence of articulate language is also

of the utmost importance. Without it the attention does not rise above the primitive, curious attention of the brute, the savage or the child. Through the understanding which it carries with it, it rouses the liveliest sympathy among people. It stands as a support to memory, while it exercises a controlling, subduing, and directive power over the emotions.

The intelligent development of language implies a constant development of judgment and reason.

In the formation of the concept, we come to the dividing line between the perception of external, or concrete things (sense perception), and the apprehension of internal, or abstract relations (conception,—apperception).

Here the individual is first conscious of himself, and becomes free to do his own thinking. The extent to which he carries his generalizations (provided always that he classifies on the basis of common essential characteristics) determines the extent of his freedom and of his effectiveness.

Without the intelligent use of articulate language, probably no abstract judgments can be made; no consciousness of self, and consequently no ethical judgments can be evolved.

At this point we are met by a question regarding the pedagogical application of the theory of the dependence of all important forms of thought upon articulate language.

The function of pedagogy is to lay the foundation for developing later a broad minded thinking people whose activities may always be depended upon to work for the highest good of humanity.

In considering the relation between thought and language, we have regarded the beginning of real intelligence, the beginning of rational judgment, the beginning of generalization which lies at the foundation of reason and rational action as coincident with the use of the articulated word naming the concept which results from the free judgment of the individual. If this proposition be accepted, and if the alleged function of pedagogy be regarded as legitimate, then, in connection with the education of children, it follows that from the very beginning of school life, the development of intellectual language, *i. e.*, of the connotative, or denominative term, and the proposition, should receive special and careful attention.

In the United States, the teaching of language is difficult. If, among the tongues of Babel which surround it, the English language retains its characteristics, it must possess marvellous vitality. In the Northern and Western States, unless it be preserved in the schools, it can hardly survive. In not a few of the higher institutions of learning, strenuous efforts are being put forth in its behalf. Many professors whose time might be otherwise employed are obliged to devote no small portion of

their time and energy to the correction of the very imperfect language which the students bring to their work; a language so scanty at times, that instruction in other subjects can hardly be given until greater facility of expression in English is acquired. Yet with all that is done, we have reason to believe that the condition of our language in many parts of the country is but little encouraging.

A few years ago, a prize of some importance that for years had been given annually for a paper upon a literary subject was withdrawn from one of our oldest universities for the reason that among eleven hundred undergraduates, not one had presented a paper worthy of consideration.

Last year, an instructor in chemistry in a large American university wrote: "These students study chemistry! Why they can't talk. They can't spell. They can't read. They can't write."

In a recent number of one of our best magazines, a writer mentions the fact of a considerable prize being offered to undergraduates in a New England college for a paper upon a somewhat abstract subject. Only with the greatest difficulty was a production obtained that would justify publication, and when it appeared, it did not escape censure.

Within the last few weeks, an item has appeared in one of our best daily papers to the effect that eight young men, high school graduates from a Western locality, have successively failed in the examination for admission to West Point, and that in every case the failure was in common English subjects.

As a further indication of the discouragement, concerning our schools and their results, which seems to be felt, the writer has made a list of some of the charges which, from time to time during the last few years, have been preferred through magazine and newspaper articles against the students who enter the colleges and universities of this country. The charges collected read about as follows:

1. They (the students) cannot talk except in a jargon of their own composed of words that have no general application, and are therefore intelligible to only a limited number of people.

2. They cannot write in fairly good English. The words they use are largely the names of material things. Many young men and women of the high schools who present themselves for admission to normal schools and colleges are not capable of writing an ordinarily correct letter upon any subject whatever.

3. They cannot read. In attempting to read aloud, they display an amazing unfamiliarity with the printed page. They pronounce words very incorrectly, and give but little evidence that they understand their meanings. In attempting to read

silently, after perusing a paragraph, they cannot give a synopsis of the thought expressed. They not infrequently give evidence of knowing each word in a sentence, but are incapable of giving the thought expressed by those words when they are combined in the sentence.

They display a marked disinclination to use a dictionary. The unfamiliarity with this book is so great that one might be justified in supposing that in some of the institutions of learning in the United States, dictionaries have not yet been discovered.

4. They take little or no interest in literature, either prose or poetry.

5. They show little or no interest for intellectual pursuits; indeed, they awaken to genuine intellectual effort only with great difficulty. At present education seems to be crippled in its essential idea of intellectual life.

6. They take no special interest in public questions.

7. They know little and care less about social questions.

8. In the educational world, enthusiasms have become restricted, and are very difficult to arouse.

9. They have no special love of country. The fundamental principles of freedom do not appeal to young people; indeed they seem to be losing power with young and old.

10. Appeal to the ethical reason is made only with difficulty. There is a substitution of sensuous for spiritual apprehension, a taking of events at short range, instead of contemplating them in those wide relations in which they compose the universe. They cannot be said to realize moral responsibility in any adequate sense, and they show a lack of moral independence that promises unfavorably for the formation of character.

11. Such interest as they show is largely in connection with concrete things; for example, with the subjects of the laboratory, with the tactics of field sports, and with the commercial advantages that may result from an extended attendance at some higher institution of learning.

These are grave charges for serious-minded people to bring against the very best class of the youth of this country. The writers who make these statements are not prejudiced foreigners who might take pleasure in noting the weaknesses of our educational influences, but they are people who love the country so well that they would gladly open our eyes to the conditions under which we are at present living. Even granting that these evils be exaggerated, they are still sufficiently dangerous to cause anxiety on the part of thinking people who have at heart the best interests of the youth not only of the colleges and universities, but, also, of that larger class who lack opportunity for the broader development afforded by our higher

institutions of learning. No doubt more serious charges could be made, and indeed are made, against the youth and manhood of this country, both within and without the colleges and universities. A list of such charges of weakness, to call them by no harsher name, would include: heedlessness, self-indulgence, lawlessness, greed, brutality, sufficient to fill the mind of any ordinarily thoughtful person with the liveliest apprehension.

Every daily newspaper of this country, every day of the year, publishes events that show unmistakably that these charges are well founded. Even granting that only one tenth part of them may be true, the conditions are still sufficiently serious to excite alarm.

The question whether the schools have done, are doing, or possibly can do anything to influence our present social conditions is certainly a legitimate one. What possible connection can exist between our educational conditions, and the social difficulties that are at present perplexing the wisest men of the country?

During the past half century, a great change has taken place in the public school education of the United States. This change has affected not only the subjects taught in the schools, but it has reached as well the plans of procedure, the so-called methods of instruction.

About the year 1860, "object lessons" so-called were introduced into the schools. Later, these gave place to "objective instruction," and this in turn was succeeded by what has been known as "Elementary Science Teaching." Still more recently the schools have had a course of what we call "Industrial Education."

The principle, "first the idea, and then the word" so vigorously emphasized by Pestalozzi has dominated the educational effort of this country for a little more than forty years, during which time, the end and aim of school life, and indeed of home life as well, has been the acquisition of concrete images, *i. e.*, of ideas of concrete things. Everything that could appeal to the senses of the child has been presented to him. Every conceivable object has been subjected to sight, hearing, touch, taste, smell, etc. When the objects could not be brought into the schoolroom, the children have been taken to them, so that but little has escaped their attention. The result seems to be that our young people (if not also our adult population) have become addicted to things, and that they center their main interests and hopes of happiness upon the concrete world.

With the habit of occupation with concrete things for some twelve or fourteen years of the most impressionable period of life, we can hardly wonder that when a student goes to college he should show a greater disposition to occupy himself with

material things than with abstract questions. We can hardly wonder that later in life, the actual possession of a certain amount of plain hard cash should seem much more real, and far more desirable to him than a clear intellectual apprehension of a man's duties as a citizen, or of the moral distinction between *meum* and *tuum*. This would seem to be the logical outcome of excessive occupation with concrete things.

We can have no quarrel with "objective instruction" *per se*, nor with any form of instruction that leaves the child in a better condition than it finds him, but we must remember that there are other than material objects in a course of education, and it may be well to examine the scope of objective instruction as it is sometimes pursued in the schools, with a view to finding out whether it is calculated to meet the requirements of mental development.

In the first place the material object appeals to the senses, and to the senses alone. The psychical result of this appeal is a concrete image or an image of a concrete thing.

According to the previous experience of the child, and according to the degree of attention brought to bear upon the object at the time of presentation, this image is more or less vague. If the child has never before had anything like it, and if the attention be distracted by the presence of other striking objects, the chances are that no adequate image of the thing presented is formed.

Also, in childhood, the nerves of sense are often so incompletely developed, that the sensations formed through the excitation of eye, ear, etc., are totally unlike those which the teacher expects the pupil to gain, so that the mental product is no adequate foundation for the apprehension of other images to be gained through the presentation of other objects. In order that something like an adequately correct image may be formed, much time should be allowed for repeated observations of the same thing. Otherwise the mental content must be such that nothing but errors can result from its use in thinking. Just here is laid the foundation for that incomplete, inaccurate observation which Herbart has said "trains only dreamers and fools."

Also the clearness or vagueness of the image may be largely determined by the extent and kind of language used at the time of presenting the object. At best only the most simple images can be held before the attention without the use of words, and then but for a short time. The more complicated images depend for their existence upon the awakening of the intellect, which can only be secured through the use of language. The word, merely as the name of the individual image, is not sufficient even for the child of five years (perhaps it is

not sufficient for a normal child beyond three years). Images classified under the concept name can be held before the attention better, and, through the observation of their common characteristics, they become clearer than when each is observed individually.

The evil that objective instruction was intended to counteract was the acquisition of words without the ideas that they were intended to represent. This was the danger of learning books verbatim, as was largely the practice in the early history of public instruction. The stultifying effects of this process cannot be too severely condemned, and a reaction against it was inevitable. The dread of acquiring words without ideas has become so great that not a few teachers appear to be disposed to dispense with words altogether. However, since it is impossible to hold many ideas without words, and since words are indispensable to thinking, the last state of the children threatens to become worse than the first.

It is quite remarkable to find how few complete sentences, each containing subject, predicate, and suitable modifiers are exchanged between the ordinary teacher and his pupils. Presumably in every school, directions, questions, explanations, are given, yet if teachers were to review their own language, they would probably be astonished to find how few sentences composed of well-chosen words they speak in a day. Probably they would be still more surprised to find how few sentences, either correct, or incorrect, their pupils speak in a day. A sustained conversation between teacher and pupils is very unusual, frequently an unheard of thing. Yet it is only in conversation that individuals can learn to talk. A normal school student of more than twenty years stated recently that she never spoke for ten minutes uninterruptedly in her life. She thinks that she never talked in school for five whole minutes. She never conversed with her teachers, and she often spent days and weeks in school without speaking one complete sentence during recitations. Many a day she never recited orally at all. This is perhaps not an unfair representation of the language facilities in the ordinary public school. Questions that are asked are generally elliptical in form, often they are expressed in single words, while the answers are very generally sent back by the children in single words or phrases, not infrequently by the monosyllables "yes" and "no."

Very recently the writer found a young woman who went through her school course without ever reading aloud once, and who picked up such reading as she can do quite by chance.

It is not impossible that the wordless condition of the elementary public schools, may go far to explain the lamentable poverty of language on the part of high school, normal school, and college students.

In some schools, teachers may be found who express themselves well, but who seem to lack the power to secure fluent expression from the pupils. They seem not to recognize the fact that in order to be able to do his own thinking, a pupil must do his own talking.

Sometimes it is urged that in the schools the training in the use of language belongs to the work of the teacher of language. Even here, however, the language is often about as limited as it is in the recitation in arithmetic, and since the material object has also made its way into the language lesson, it is quite as concrete.

It may be remarked that the introduction of the material object into the language lesson is largely for the purpose of providing a subject concerning which the pupils may write. Just here it may be said that instruction in writing seems to be quite in excess of instruction in talking or in reading. The effort expended in this connection seems to be out of proportion to the results secured. Generally lack of power to talk connectedly implies lack of power to write. In both speaking and writing, thought is required. Children waste quantities of ink and paper, together with much energy, in trying to express in writing what they have never had an opportunity to think, simply because they have had no practice in using words to form concepts, and of using those concepts in oral sentences. If half the time which is spent in teaching pupils the art of written composition were spent in training them in oral expression, the results of the other half spent in writing would probably be vastly more valuable than they are at present.

In the work that was done before objective instruction was introduced into the schools, as before intimated, the children learned books by rote and recited them to the teacher. It was a chance whether the text was understood or not. Often no apprehension of the subject was gained. For the pupil's development, this was, of course, very bad, but upon the whole no worse than the accumulation of vague, fleeting, disconnected images, without, in many cases, words either to name or to classify them. Confusion and obscurity among images of concrete objects is just as great a hindrance to mental growth and to effective action, as confusion and obscurity among words. As to the rote-learning, we may say in its favor that the children had a much greater opportunity for speaking aloud than they have in objective work. The sentences were well constructed so that the right relation of subject and predicate was always secured. A copious vocabulary was also gained. Another advantage was that pupil's not infrequently studied their lessons aloud, thereby becoming accustomed to the sounds of

their own voices, so that they were free from confusion when required to speak. There is at least a probability that the habit of silence during school hours during the early years, may have something to do with the rigidity of the lower jaw which is so marked in a large majority of students when they attempt to speak connectedly for some time, or when they attempt to read aloud. Herbart reports that Pestalozzi, himself a very indistinct speaker, secured very fine results in articulation and expression on the part of his pupils by simultaneous oral recitation. Indeed, the well-known story of Pestalozzi's celebrated "hole in the paper," furnishes ample grounds for the inference that whatever the Swiss educator may have done for the development of the idea, he never once neglected the training in language necessary for the formation of concepts.

In connection with the study of objects, one great difficulty is that not infrequently both teacher and pupils regard the material object as the real object of study, instead of which it should be treated merely as a means by which the truths of the subject presented are to be illustrated. Where many and varied objects are presented, this misapprehension appears inevitable. The results are to be seen in many departments of school work. Instead of knowing botany, many of our students know the names of individual plants, and can enumerate their specific parts, together with the length, thickness, form, and color of each part. Notwithstanding the study of objects in both botany and zoölogy, it is not impossible to find high school students who cannot state anything approaching an adequate distinction between a plant and an animal. Instead of knowing zoölogy, the pupils know the hair of a dog, the toes of a horse, and the feathers of a canary bird. They have neither the concepts nor the language necessary for the intelligent statement of principles or rules.

In arithmetic, illustrative objects are numerous, and, as in the other subjects, are continued too long. After the age of seven, concrete objects are probably a hindrance to the apprehension of this subject. Children do not know arithmetic. They know that two blocks and two blocks make four blocks, and that two blocks from four blocks leave two blocks. After the objects are removed, the pupils are still held down to concrete things by the substitution of denominate numbers. It is not impossible to find, even in high schools, pupils who can neither add, subtract, multiply, nor divide, without making most amazing blunders. At this moment the writer has a vivid memory of a young normal school teacher (a graduate of both high school and normal school) weeping bitterly because she could not find the dimensions of the platform in her class room, her principal having given her permission to cover

it if she would tell him how many yards of carpeting would be required.

As to algebra, the concrete processes of adding, subtracting, multiplying and dividing may be fairly well understood, but one not infrequently finds students who cannot shorten a process of any kind by applying a known principle.

Even in grammar the influence of the inaccuracy arising from the study of concrete things may be seen. At least one high school pupil described an abstract noun as an "object not composed of matter, but yet a liquid, for example, water."

The complex character of geography seems to have demanded for its elucidation the introduction of multitudinous and varied objects into the schoolroom. A few years ago, the writer attended an exhibit of things to be used in teaching geography. The material filled two large rooms, and the visiting teachers were cheered by the information that the supply was by no means complete. And yet, the knowledge of geography as displayed by high school pupils is at times calculated to move one to tears. Among those that go to normal schools, some have been known to locate London and Berlin in south latitude. Others have ascribed to the earth two motions, viz.: "notation" and "remuneration." Some have never heard of latitude or longitude, while still others prove themselves quite innocent of any knowledge of mathematical geography whatever. A few months ago a letter addressed to the director of geography in perhaps one of the best training schools for teachers in this country brought this remarkable information: "We do nothing whatever with mathematical geography, as the teachers themselves know no more about it than the children do."

In this connection, it may be remarked that the material objects presented in connection with the study of geography may be divided into two classes, viz.: natural, and artificial objects. The natural objects presented are not infrequently entirely aside from the purpose of geography, being calculated rather to illustrate truths in agriculture, manufacture, art, etc., than designed to make geographical principles intelligible. One writer in this connection presents hints for a study in color, which he admits is not exactly geography but defends his presentation by asserting that color is a very interesting subject anyway. Much of the material suited, perhaps, to the study of physics, chemistry, etc., but presented in geography, must be explained on the same principle. Concrete objects presented in this manner must prevent the acquisition of geographical knowledge no matter how excellent the objects in themselves may be. Perhaps even a greater hindrance lies, however, in the presentation of artificial objects under the name of apparatus; as, maps, globes, mouldings, etc. These objects

are only useful when employed to illustrate a truth, and having filled their purpose, they should at once be dispensed with. After the illustration has been made, the continued use of the material object can only weaken the apprehension of the abstract truth, and must result in the thing assuming more importance in the mind of the pupil than the truth which we wish him to grasp. The object is remembered long after the lesson is forgotten. As an illustration, may be mentioned an incident of a number of normal school girls of about sixteen or seventeen years who were required to assist in laying out a plan of their State on half an acre of land in the school grounds. After an hour's work, one day, during which the director (an experienced and skillful civil engineer and a good teacher) had given very clear illustrations and explanations, the girls went to their class room, and looked at a sand model of the same State. "Oh, girls!" exclaimed one, "How much more satisfactory this is than that thing out of doors!" "Yes, of course!" answered another, "Because it is so much more like the real thing!" "What is the real thing, Emma?" asked a puzzled teacher who was present. "Why, that!" responded Emma as she pointed with an air of conviction to a map of the State which hung on the wall. Further conversation revealed the fact that all the girls were wondering why the "Professor" should make a representation of the map out on the grounds.

The globe used in geography very easily becomes the earth, and may greatly hinder the apprehension of facts concerning the earth itself.

A story is told of a bright school boy who had shown himself remarkably skillful in the use of maps and globes; when he heard a gentleman say that Russia had sent fifty thousand men into Germany, he asked his father how it was possible for so many men to stand upon the small space which stood for Germany on the map of Europe. This very well illustrates the distorted mental content which the excessive use of artificial objects (or indeed, the excessive use of any material objects), furnishes as a mass of ideas for the apperception of new knowledge. A very successful teacher of geography stated that she was better able to develop the necessary ideas in the minds of her pupils by means of carefully chosen words, than by means of any concrete material that she could find.

In connection with the use of any material object as a means of illustration, careful and adequate language on the part of both teacher and pupil is very necessary. The lesson is not finished until the language of the child convinces the teacher that he is in possession of the concepts which the lesson was calculated to furnish.

It is sometimes urged that, if sense-perception be exercised,

and if concrete images be formed, later in life the pupils will make their own generalizations. This is very like, and quite as futile as the assertion which the people who formerly defended rote-learning were in the habit of making, viz.: that if the pupils learned verbatim the author's generalizations when young, later in life they would fit their experiences to them, and thus come to understand them. As a matter of fact, the latter proposition appears to be the more valid of the two. Students who have had years of school life do not show any special tendency to make their own generalizations.

When, by the nature of the subject, abstract language is required by them, they construct sentences that have at times no signification whatever, or else they say the very opposite of what they mean. A recent graduate being interviewed regarding her apprehension of a definition wrote: "A definition, psychologically speaking is an optical image." When asked to examine this statement, and to criticise it, after some reflection, she declared that she could see nothing wrong with it. Still another, a student of Ancient History, wrote: "The Assyrians became so powerful that they compelled another nation to come over and subdue them."

A third, being required to describe the "Salic Law," wrote: "The Salic Law was no woman or son of a woman could occupy the throne."

A fourth being questioned concerning "Westminster Abbey" wrote: "Westminster is in Montana, Abbey is in Africa."

These amazing statements, delivered with an innocence and a matter-of-course manner that leaves one somewhat dumb with astonishment, are a fair indication of the character of the ordinary expressions of these young people. It is perhaps no matter for wonder that such students should show little or no interest in abstract questions, or in the reading of books that present subjects in the smallest degree abstract. It is perhaps not too much to say that there are many young men and women students twenty years of age, who have been at school at least from ten to twelve years of their lives, who cannot possibly carry on a conversation on any topic beyond the every day happenings of their immediate neighborhood, and of these, they cannot give a listener even a fairly correct idea. When together, with no older persons taking part, their conversation presents a curiously intermingled mass of trivial personalities, expressed almost entirely in concrete terms, relieved and ornamented by slang expressions so specialized that a stranger cannot even guess their meaning. A somewhat appalling thought in this connection is that out of such material a by no means small portion of our public school teachers is constructed.

Since Pestalozzi worked much more by intuition than by

rational insight, it is somwhat difficult to determine just how far he apprehended the scope and the significance of his own procedure. From the interpretation which Herbart has given of his work, however, we believe that he advocated the use of objects in instruction only so far as they were calculated to secure to the child clear images, from the combination of whose common, essential characteristics the concept might be evolved. The denominative term and the proposition was the ultimate aim of the lesson.

The Pestalozzian method of instruction as it was interpreted by Professor Hermann Krüsi, and as it was pursued for the first thirty years at the Oswego Normal School, objective though it was in character, made provision at the close of every lesson, or series of lessons, upon a subject, for generalizations which put the pupil in possession of concepts that were developed through the exercise of his own individual comparison and judgment. The development of "perception, reason, judgment, conception, memory, and language," constituted the object or general purpose of every lesson, and no recitation was considered a success until this purpose was achieved.

As time has gone on, the tyranny of things seen has, to a large extent, excluded things not seen from the schoolroom. In objective work, generalizations appear to be more and more neglected, and, except in a casual and careless way, do not occur. Consequently, the intellectual processes beyond mere primitive attention are not adequately developed. The lack of purposeful connotation implies lack of concepts, which implies lack of power to think except in the crudest fashion.

As in Pestalozzi's practice, so in Herbart's theory, we find marked and ample provision made for the development of concepts, and of power to generalize. In the "Six Interests" and in the "Four Steps of Instruction," only in the first of each is occupation with concrete things implied. The speculative and æsthetic interests, as well as those of the family, society, and religion, all involve the consideration of abstract relations, while the second, third, and fourth steps of instruction afford the largest opportunity for abstract thinking, and for the development of intellectual language. It is doubtful, however, whether much attention is paid to any but the first steps of the Herbartian instruction. Teachers have, in many cases, not been able to understand the importance of association or system, or even of application in their work. As a matter of fact, the first step is only of real value in proportion to the work done in the three succeeding steps. The time spent upon the latter part of the lesson is of the greatest possible value in saving occupation with many things. Herbart, himself, warns teachers against mistaking much occupation with things for

much understanding of principles. He asserted that with only Homer's Iliad as material, he would undertake to develop the six interests in such a manner as to form the foundation for a well-rounded character.

In connection with the use of material objects in the recitation, are two conditions which may, in a way, explain the limited use of language in the class room. The first is that the distribution and collection of material, consumes a large portion of the time allotted to the recitation. The second is that the handling of many different things appears to exert an influence which is unfavorable to connected thinking. As the care and condition of the material is the concern of the teacher, one can understand that she may be so fully engaged with individual things that she has little time or energy left for the real teaching that ought to accompany the presentation of objects.

A teacher of some experience, with young teachers in training in normal schools, states that young students who, when they first enter school, develop considerable enthusiasm for abstract studies, after they have been in the practice school as teachers for ten weeks, upon returning to the normal department for further study, display a marked lack of interest in abstract work. There seems to be an apathy and a difficulty in becoming interested that can hardly be overcome. Principles are not understood, apparently, largely because these students do not develop sufficient energy to apply them. This teacher states: "The condition is not exactly indifference and not apathy. Rather it may be regarded as a complete reaction from tension. The handling daily for ten weeks of some thousands of objects, and the observations of their obvious relations so disperses the attention that these young teachers seem to partially lose their powers of concentration. They can be appealed to only through the senses, and then not for long at one time. Also, they seem less able to take care of themselves during study hours, and are frequently complained of for lack of self-control. They talk about little things not worthy of expression. The students who have done only the abstract work are hailed with relief by both departments, though these also do inferior work after they have returned from their ten weeks' teaching.

Some idea of the number of things handled during a single lesson in Art may be gained from the following data:

For a class of 40 pupils.

1. 40 trial papers,
2. 40 other papers,
3. 40 bowls,
4. 40 times water poured (in each bowl),

5. 40 paint boxes,
6. 40 brushes,
7. 40 specimens from which to paint.

Total, 280 objects.

This number of objects may vary slightly, but not essentially. At the close of the recitation these objects are to be collected and put away, thus making necessary the handling of 560 objects in thirty minutes. Sometimes the teacher employs the children to aid her in distributing and collecting material, but this does not lessen the number of objects handled. It only distributes the handling among more people; nor does it lessen the necessity of the teacher's attending to the individual objects, both in getting the material ready and in putting it away.

If the dispersion of attention incident to handling and caring for so many different things be perceptible in a teacher of ten weeks' standing, what effect must it have on a teacher who works in this way habitually a year at a time?

It is not impossible that this kind of work might go far to explain the apparent intellectual arrest not infrequently observed in teachers who have exceeded five years of continuous work in the primary grades. If adequate investigation could be made, it is not impossible that some peculiarities of much kindergarten and industrial teaching could be explained. As a matter of fact, concrete details do seem to occupy the attention of many of our teachers to the exclusion of abstract questions. At this moment we have in mind a teacher of "Decorative Art" as it is pursued in the public schools. She saw the objects in a landscape, as they would be if she were to represent them in a design on a cardboard of eight by ten inches. When she looked at a sunset, she became immediately troubled to know what proportions of several paints ought to be put together in order to get the glow. In the same school with this teacher was another who told the pupils of her class that the forms of nature were based upon the Prang models. The teaching of the Prang models had been a specialty of this teacher's for some time, and she saw signs of them everywhere.

It is a question whether the strongest mind can long withstand the deteriorating influence of constantly pointing out the characteristics of concrete things. The unsatisfying nature of such work, perhaps, shows itself in a curious restlessness on the part of many of our teachers who seem to be always seeking and never finding. They are eager for improvement and wander hither and thither to clubs, lectures, associations, etc., but it is interesting to observe the excuses which they will make even to themselves, to avoid sitting down to write a simple paper, or to do an hour's hard reading.

If the influence of individual things is deteriorating for a teacher who has some power of resistance, what must it be for children who cannot escape them?

A few years ago the writer had an opportunity to learn the condition of a graded school of five hundred children,—from the kindergarten through the last grammar grade. In the United States no school existed that had for so many years been so thoroughly conducted upon the principles of "objective" "Elementary Science," and "Industrial Methods." Through a change of principals the fact was discovered that the school was beyond the control of the teachers. Teachers from an advanced department came into the lower grades to aid in bringing something like order out of chaos. The children of the three lowest grades were in much better condition than those who had been longer in the school. In the grammar grades were pupils long past the age for admission to the high school. Year after year they had failed in their examinations, until finally there was no hope of their ever being able to enter the high school. The restlessness, excitability, and irritability of the whole school were very marked. The older pupils were noisy, insolent, and ugly. At times they utterly refused to work. The reading and writing throughout the school were incredibly poor, while the work in arithmetic was below that of any other subject. The power of attention was extremely limited, and, if a persistent attempt to hold the children to work were made, many children were attacked with sudden and violent headaches. Through a change of teachers, a change of subjects, and a change of procedure, a change for the better was effected, and an outbreak of school hysteria, or at least chorea, was avoided. The cause of the difficulty seemed to be a long course of ill-digested, or wholly undigested "objective instruction."

One of the most serious difficulties resulting from constant occupation with material things, is the consumption of energy involved. Any person, who, at any time in his life has been addicted to museums, "Worlds' Fairs," etc., will remember how soon during his observation of objects, fatigue set in, and how utterly incapable of thinking he became after an hour or two. Another difficulty is the mental helplessness of the person who is addicted to things. Within himself are no resources for amusement or entertainment. The higher pleasures of the imagination are denied him. He is constantly looking for some new physical excitement. This constant tendency toward excitement is the greatest possible hindrance to the capacity to learn anything that requires reason and reflection. It is, perhaps, not too much to say, that many of our young people in their pursuit of excitement, exhaust their capacity to learn at

a very early age, and seem to acquire a permanent nervous fatigue which may be the reason for the failure of such a large number of our men and women to stand a strain of care or trouble even in early manhood and womanhood.

The absence of the life of the imagination, and of power to think seriously, makes a great void in the life of the individual. To-day the world is full of wanderers flitting from mountain to seashore, from city to country, from island to mainland, from California to Alaska, India, Egypt, anywhere, where they may see or hear a new thing. Social life is full of concrete things; flowers, dresses, foods, play a large part in entertainments of every kind. Theatres are overflowing with things rich, showy, noisy; that shall, night after night, minister to the senses of restless, nervous spectators who are eagerly demanding something that shall excite them yet a little longer.

Occasionally, during the past five years, we have been met by an anxious question as to whether our present social conditions do, or do not, indicate a loss of civilization and a probable reversion to savagery. This dark prospect is certainly not attractive. Nor is it probable. No nation has ever yet passed from civilization to savagery; but, perhaps, not a few have fallen into a worse condition. An awakened and developed activity, without the judgment to direct it to desirable and legitimate ends, must always be more destructive than an activity that is but partially awakened and is still undeveloped. With the latter something may yet be done; for the former there is but little hope, and so long as it exists there is danger.

The school is the conventionalized expression of the social condition of the country. It assumes the form which the real or supposed social need indicates, and presumably fits the rising generation to supply that need. Just now the social need seems to point toward the possession of the material world, even at the risk of losing our immortal souls.

It is, perhaps, not too much to say that our excessive attention to material things, both in the school and in the world, means restriction to the language of material things, which means a loss of intellectual language, which means more primitive and more limited thinking under which our social conditions must deteriorate.

The remedy for existing conditions and the hope of preserving intellectual unity in the country, would seem to lie in everywhere subordinating the material things of life to their earlier and legitimate use, viz., that of making the abstract comprehensible to the end, that it may furnish us with the highest rules of action.

CYNO-PSYCHOSES.[1]

Children's Thoughts, Reactions, and Feelings toward Pet Dogs.

By W. Fowler Bucke, Fellow in Clark University.

PART A. GENERAL CONSIDERATIONS.

I. *Introduction.* In a lecture upon the Love and Study of Nature,[2] President G. Stanley Hall said that the five great human interests of science, art, literature, religion, and human history and society, root in the love and study of nature. He proceeds to suggest how this has been, and under his direction a number of these forces in their relation to the child and the race have subsequently become problems of research, making as the basis of the study, material collected by the questionnaire method from a large number of children and adults. At that time he outlined what the child's relation and reactions to animals might be, and uses pets as the means of approach. Later, Dr. Hodge published his excellent volume, Nature Study and Life, which suggests in a most helpful way, how the school children's native interest in plant and animal life may be developed into an enthusiasm which shall contribute to a "safe philosophy of life." Here the question of domestication

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[2] Delivered at the public winter meeting of the Massachusetts State Board of Agriculture, at Amherst, Dec. 6, 1898; published in Agriculture of Mass., for 1898.

is mentioned as an introduction to animal study. With the idea suggested by the address and by the book mentioned above, when President Hall named to the writer as a problem of research, the thoughts, reactions, and feelings of children to animal pets, it appealed to him as an interesting and fruitful problem upon which to work. Of course our investigations proved that the dog is the most popular with children.

It need scarcely be said that it is not a dog psychology. The nearest approach to it is in our second part, where are reviewed and brought together the views that the children, and a few psychologists, believed to be its psychic processes.

In its final analysis, the study, then, reduces itself to the answering of the following questions, made evident by the returns and the literature, bearing in mind that the purpose of the study has been, primarily, to know child interests: (1) What has been the rank of the dog with other pets at different ontogenetic periods? (2) What has been the nature of the mind of the dog as seen by those who are attracted by it, through the exercise of which the race and the child have been influenced? (3) What have been some of the chief influences that the dog has exerted upon primitive man, and upon the race in their development, as shown by industry, art, literature, and the returns?

II. In the *choice* of the dog by the children there are a number of interests that must be considered, chief among which are:—

1. *Rank.* Of the number of different pets owned by the more than 1,200 returns preferring the dog to other pets, fifty-six have given either the full list of those which they owned at different times, or if not, then those which they liked best. Thirty-five mention cats; 16 horses; 14 rabbits; 12 canaries; 10 chickens; 8 each, birds and squirrels; 4 each, lambs and turtles; 3 each, calf, pony, rats; 2 each, monkey, guinea pig, white mice, cow, parrot, fish; 1 each, camel, coon, deer, tiger, bear, duck, chipmunk, dove, bantam, pigeon, and ferrets.

Using the total number of returns upon all the animals about which the children wrote, and basing the comparative popularity of pets upon the one which each selects spontaneously, about which to write his feelings and reactions, one finds an interesting parallelism with the above. Of course some slight influence might have been manifest from the rubrics having been followed, making it easier to write upon one than another.

Dogs are admired generally by people not for sporting purposes but chiefly for their companionships. Countess Cassini's (32) three French poodles have lived in China, Russia, France, Germany, Austria, Japan, Italy, and the United States; Senators McMillan, of Michigan, and Edmunds, of Vermont, were

partial to bull dogs, which accompanied them on their strolls when in Washington. The late British Ambassador, Lord Paunceforte, was fond of his dog Briton, who had a registered ancestry (32). Queen Victoria, a lover of all pets, seemed especially to enjoy some of her dogs. Poets in general, and a number of distinguished novelists and naturalists, including Darwin, were fond of dogs. In early historic times dogs were similarly admired. More than 4000 B. C., in Egypt (66), the dog was the friend and servant of man, living with him in the house, following him in his walks, and appearing with him in public ceremonies. Clerke (22) thinks the Trojans possessed him in domestication, as a luxury. Homer has written about him. Women had toy dogs from the island of Malta (57).

The following table is based on the 2,804 returns, then, from school children ranging in age from six to seventeen years, where age is mentioned. The reminiscent papers frequently gave no age, but here the essay was upon the pet appealing to them even yet, in most cases.

Of the 2,804 papers written upon pet animals, the proportion is as follows: Dogs, 42.86% ; cats, 27.57% ; canaries, 6.28% ; rabbits, 5.45% ; horses, 4.64% ; parrots, 3.18% ; chickens, 2.39% ; ponies, 1.42% ; pigeons and squirrels, each, 1.07% ; fish, 0.60% ; lambs and monkeys, each, 0.50% ; goats, 0.49% ; doves and cows, each, 0.39% ; coons and mocking-birds, each, 0.28% ; ferrets and turtles, each, 0.14% ; ducks, crows and donkeys, each, 0.13% ; deer, 0.07% ; orioles and quail, each, 0.04% ; all birds combined, 13.93%.

Langkavel (58) shows dogs to be rare in but few localities among primitives. At Tarim and Flores, in Asia ; among the Suyas, Bakairi, Manitsanos, and Bororo of South America ; in parts of the Linkin, the Maldive, and islands of the Persian Gulf, and in the Comora and old Tasmania Islands of Africa, dogs are not known to exist.

Cope has found osseous remains of dogs in prehistoric strata, and made a careful classification of the types and evolutions of those in the strata of the United States.

Children early form a fondness for dogs. Miss Shinn's niece, at six months, is described as having a new awakening on observing the dog that was in the home all the child's life. Rarely do they appear to acquire a natural antipathy to dogs, although Fèrè (34.358) discusses cynophobia, but observes that it is more rare than a morbid fear of insects and animals of a smaller kind. Helen Keller (56.214), although at twelve owning a "beautiful pony and a large dog," said she would like a little dog to hold in her lap.

It will thus be seen that children, history, anthropology, geology, and various types of people at the present, each make

a contribution to prove the universality of the dog, and its long life and intimacy with the child and the race, making it difficult to say, whether as a result or as the cause of his popularity, Hachet-Souplet (43) have found him to rank next to man in his intelligence to learn through persuasion.

2. *Sex differences.* As the returns are from children of both sexes, between the ages of seven and sixteen, one is afforded a means of observing sex and age differences to some extent without attempting to formulate any definite norms in regard to either. That the significance may best be understood, it is necessary, however, to make a few comparisons with the other pets at this point. It will be seen below where the age and sex interests of the six most popular animals, dog, cat, canary, rabbit, horse, and parrot, are represented: (1) That the dog, horse, and rabbit, are more in favor with boys than with girls in every age studied; (2) That the cat, canary, and parrot lead with the girls in every age; (3) The cat seems to be most popular with the girls at eight years of age, then declines steadily, while eleven is the culminating age with the boys, with rapid decline thereafter; (4) With both boys and girls there is a steady increase or growth in favor of the dog, perhaps greater with the boys during or at the dawn of adolescence; (5) During the earlier years the dog stands in about the same favor with girls as the cat does with the boys, and *vice versa.*

Interest in the six most popular pets at different ages:

	Age. 7	8	9	10	11	12	13	14	15	16 yrs.
Dog,	B.....33·5	41	44·5	42·5	53	51	50·5	57	54	53%
	G..... 6	3·5	36	37	45	42	44·5	40·5	46·5	48%
Cat,	B..... 6	16·5	19	22·5	24	15	19	9·5	12·5	
	G.....33·5	41	39	35·5	36·5	31	28	32·5	27	19%
Canary,	B..... 2	1	5	5·5	2·5	1·5	3·5	3·5		
	G..... 6·5	2	5·5	5·5	6·5	12	9	8·5	8·5	10%
Rabbit,	B.....16·5	16·5	9·5	10·5	8·5	9·5	7	5·5	7·5%	
	G.....13·5	12	8·5	5	3·5	2·5	2·5	2·5	2·5%	
Parrot,	B..... 5·5	0	5	1	1	1·5	0	1·5	1·5	3%
	G..... 6·5	2	1	4	3·5	5·5	8	4·5	6·5	6·5%
Horse,	B.....11	0	5	3	1·5	7·5	9	8	13·5	24%
	G..... 6·5	6	2	2	2·5	3·5	3·5	5	5	10%

The percentage in each case is computed from the total number of returns at the respective ages on animal pets.

3. In a study of this kind there are many *things external to the real qualities* of the animal that may assist in making it popular among children, such as the associations of friends, or some single act which may have served to win its way to the heart of the child. While these considerations may be secondary, yet they have a place in the study and will here be considered. Three hundred and seventy-five, nearly one-third, were gifts. One third of these were from father, and is some

index of the father's interest in his children's pets, or perhaps, in many cases, his own interest in this animal, although some parents provide each new child of the house with a puppy, that they two may grow up together and assist in each other's development. Some were found, while others came, and out of the humane spirit of the child, or a desire to own a dog, the home was afforded an asylum for the new comer. In twelve cases the animal was rescued either from the "pound" or from the hands of some "inhuman" creature, out of sympathy aroused by the observation. One can only guess how the first dogs became pets, but since then they have frequently been acceptable presents. In England (107), dogs are sometimes ranked according to the rank of the owner, and English dogs were regarded as acceptable presents even to kings, down to the days of James I. The East India Company sent out English dogs to Great Mogul, and Sir Thomas Roe, ambassadors to the court of Jehon Ghir. The King of Ajmere was delighted with an English mastiff, and Keridge says: 'Two or three fierce mastyfes, a couple of Irish greyhounds, and a coppel of well-bred water-spanyells would give him greate contentt.' Charles Kingsley (50) was pleased to accept his dog Victor, a present from the Queen.

4. *Length of Association* is frequently a factor which develops strong friendship, as is shown by the curious relationships formed by prisoners and others to overcome solitude. Although this element may have little conscious recognition among children, it throws some light upon the study of pets. Less than half give any intimation of how long the pet has been in the home, but of these the time has been from a few months to eighteen years, or an average of 3.4 years.

5. Many *reasons* are *given by the children* for preferring the dog to other pets. In their own language the reasons are as follows:

"Papa's gift," "pet," "does tricks," "catches rats and mice," "watches house," "quiet," "likes me," "intelligent," "obedient," "guards me," "my own," "hunts," "follows me," "protects me," "only pet I have," "barks when I come from school," "more suitable for boys," "pretty," "good to me," "cute, clean, bright," "more of a comfort," "useful," "faithful," "tries to talk," "I raised him," "affectionate," "woolly and soft," "nice color," "companion," "not troublesome," "peculiar," "pedigree," "he rescued me," "hard to win," "small," "large," "gentle," "playful." F., It seemed more nearly human; it was more sympathetic than other animals.

We see in these expressions all of the essentials of domestication mentioned by Galton (39.259), and perhaps some which he does not mention, as follows: (1) hardiness; (2) fondness of man; (3) desire of comfort; (4) usefulness to man; (5) breeding freely; (6) easy to tend; (7) selection. The reader may

readily group the expressions of the children under the foregoing heads.

III. *The names* given to dogs do not always signify that the dog has made a certain impression on the child or upon man, yet, looking at a list of about eight hundred names for this pet, a clue to his friendship with the race may be found. Dogs' names, in story and legend, have had little to do with his name; neither have famous show dogs. The motive which gives the name has not always been mentioned, which, along with other reasons, would not admit of fast lines of classification, yet there is, with children, a sense of fitness recognized, which affords an idea of what some of the qualities are which stand out most prominently in the dog's personality. Six per cent. of the list suggested the heroic idea as embodied in such names as Anthony, Colonel, Commodore, Dewey, Gelert, Hero, etc. The recognition of poise, dignity, command, power, and the like, are exemplified in such names as Noble, Judge, Queen, Victor, Rex, etc., making over twelve per cent. of the list. A few may, perhaps, be classified under the recognition of the fighting propensities, as Lion, Bounce, Dash, Tammany, etc. The guarding and protecting qualities are seen in such names as Collie, Shep, Guard, Safety, etc. General types of character and temperament may be seen in such names as Boosy, Bum, Buffalo Bill, Dandy, Gip, Sly, Sport, Tramp, etc. More than one-sixth of all the names are suggested by what would appeal to the eye, subordinated, more or less, by the other senses. Examples of such are Beauty, Blacky, Cozy, Diamond, Goo Goo, Pearl, Sparkle, Speck, etc., of which the most popular are Spot, Tip, Beauty, and Browny. Size is recognized in names such as Babie, Beppo, Midget, Peanut, etc.

Among the primitives and ancients, similar characteristics or motives may have given the name. Among the Egyptians, (66) Si-to-gai meant son of the bat; Akeni, the ferreter; Soubou, the strong; Nahsi, the black; and Rameses II had a dog whose name signified "brave as the goddess Anaïtis" (Anaïtiennaktou). The primitives, in some places, give to the dog the name for mammals in general, and with others dog and pig have the same name; elsewhere the generic name is synonymous with beast of prey, carnivorous animal, sometimes animal in general, so that here we have use, habits, and rank of the animal in his relation to the race suggested, as motives in giving him his name. His well-known habit of bolting his food, and the lack of esteem in which he was held, impressed themselves upon the Turko-Tartars that he acquired the generic name "kurt" (greedy animal), and "et" (low, base). Shakespeare calls one of the dogs of his creation, Crab, and

describes him as "the sourest natured dog that lives,—a cruel hearted cur." The power of a name may sometimes be recognized and used, as with the inhabitants of Grenada (36), who are careful to name their dogs Melampo, Cubilon, or Lubina; said to be the names of the three who went with the shepherds to see the infant Jesus at Bethlehem. Dogs bearing these names, they believe will never go mad. Purely onomatopœic names can also be found, doubtless.

Our conclusion is, that perhaps universally the name suggests a recognition of personality, be it great or small, commendable or objectionable, and in some cases the feeling is not unlike that among primitives where a name is synonymous with an essential part of the soul.

IV. *Some interests, chiefly somatic*, or with a strong physical element in them, have been prominent in the returns, and, while they are minor in nature, they give a side picture of the relation of the child to the dog.

1. *Kinds of dogs.* Our returns show no abnormal admiration for any special breeds of dogs. The fact is sometimes observed that the dogs are highly bred; "he has a pedigree," or "he is very large." His peculiarities are described. His color is frequently attractive. His general form, or some peculiar formations are noted. Points are sometimes observed which dog judges mark as distinguished. Broad classifications have been made, however, beginning in early adolescence, and about twenty-three per cent. of the whole number of papers touch it more or less; the girls leading. The order of popularity here is Collie, Fox Terrier, Newfoundland, Bull dog, Pug, Water Spaniel, Setter, Bird dog, Pointer, Greyhound, Skye, Rat Terrier, of which the first three and the Water Spaniel are almost as popular with boys as with girls. St. Bernards, Poodles, Pugs, Wolfhounds and Greyhounds seem especially in favor with girls, while Bull dogs, Bird dogs, Skyes, Rat terriers, and Pointers are admired by boys. As has been mentioned, differentiation of species does not begin much before the twelfth year, hence is strong during adolescence. Hunting dogs are first mentioned in the 13th year. Bull dogs are mentioned by one boy at 7, next by two boys at 9. Mummified specimens of the Shepherd dog are found in Egypt (66); the Terrier was also known there. One of Darwin's most favored dogs was a terrier (28.91). The Bull dog was known among the Romans as the Pugnaces (12). The Pug is a very old dog, known in ancient Egypt (66). The Spaniel existed in Switzerland during the neolithic age. Fitzinger (12) reports 30 varieties of this dog. Sir Philip Sidney especially admired the Spaniel, which he called "the gentleman of doggies" (36). Among the admirers of the St. Bernard may be mentioned Mrs. J.

Grant (72.444), Mrs. Browning, and Mrs. Anna Whitney, who was the first to start kennels for them in this country.

This interest in species and varieties might be traced indefinitely, and so far as it goes would suggest in what features people and classes are interested. It would develop the fact that man may have great authority over selection, that there is a wide difference in features that are pleasing; it would show to what extent the eye must be satisfied, and perhaps, make clear what is seen in our returns, that psychic characteristics are, after all, perhaps the centre of interest. The laws necessary to produce such transformations, show to be in evidence with the adolescent, and have not been overlooked among some primitives, as observed by Darwin (25.II.190) in regard to the Ostyaks of Northern Siberia.

The observation to be made upon breeds, as studied in relation to children, is that the selective interest has its dawn in early adolescence, when the dog must conform, more or less, to the general interests of the owner, differentiating among boys to pugnacious, hunting, courageous, and intelligent qualities; among girls to grace, beauty, fidelity, companionableness, and sometimes, to dependence. The interest at adolescence is more of an active one; while previous to that it seems to be a little passive in the sense that the environment is rather accepted than made.

2. *Adornments.* That the dog must appeal to the eye is a motive among the children for adorning their dogs with collars and ribbons. Especially when others may see him he must show off in this manner. To attract attention, the ear is sometimes appealed to by means of a bell on the collar. Of course, responsibility has been a motive for collars, also, as in municipal and government ordinances and laws, where damage may be done. Identification makes it necessary, also, that dogs be labeled. In 1883 a French society instituted "Colleurs d' honneur" (36), and have bestowed such on a number of dogs for "heroic deeds," recognizing among such unusual types of mind, as shown by their sagacity in heroic conduct. Utility caused the historic war dogs to be garbed in large spiked collars.

The collar interest has not gone without notice by a few of the poets, and have called out some quaint inscriptions. Ownership was recognized by Swift when he wrote :—

> "Pray, steal me not, I'm Mrs. Quigby's,
> Whose heart in this four-footed thing lies." (49).

Pope wrote likewise for the collar of one of the pup's of Bounce, upon whom he wrote a poem. The pup was given to

Frederick, Prince of Wales. Ownership, seems here to have been the motive:

> "I am his highness' dog at Kew,
> Pray tell me, sir, whose dog are you?" (61.)

The spread of the collar interest in this country, at least, has been recent. In 1878 the whole traffic amounted to $5,000 annually, all but $1,000 worth imported. Ten years later a company, with Bremer, of Medford, Mass., at its head, was doing a business in Newark, N. J., amounting to a million dollars annually (113).

In fine, this interest with children is one of attachment, prompting the desire of impressive appearance, or ownership, with reward for good deeds. With adults, these are mingled with fear of hydrophobia, desire to suppress number, and responsibility, or utility.

G. I bought a collar for him, and had his name marked on it. G. Each week she would have a bath and then I would put a new bow of some bright-colored ribbon on her collar. G. I tied a blue ribbon around his neck and a little bell which tinkled when he moved around. B., 11. When I took him out I would make him get his ribbon and stand until I put it on his neck. G., 14. I bought a collar with bells on and Teddy runs around to hear the bells ring.

3. *Appearance of teeth, hair, etc.* As shown by the names which dogs bear, the interest in their shaggy coat suggested by the blind, interest in the markings and incidental mention of the dog's coat, one may understand how it is that primitives, as the Wahaha (58), carry dog tails on their spears, or how some Australasian tribes insert the bushy tails of the Dingo dog into their beards, in order to make them longer. The girdle of the Parsi, worn at puberty, the Mesopotamian Jews say are plaited from dog's hair (58), with other material. Even blankets are made of it on Puget Sound. The general expression of the dog's face has made its impression, as with the children, giving origin to dog head features. The Cubans described the Caribs to Columbus as man eaters with dogs' muzzles. This might throw some light upon the beliefs in dog origin. The primitive club houses are adorned with dog skulls. In the returns it will be seen how the teeth have been noticed either for sharpness or for the whiteness.

G., 15. If you would tell him to laugh he would show all of his white teeth. G. He raised one side of his nose and opened his mouth, showing his closed teeth, and rolled his eyes so that only the whites could be seen. G. If I came back he would wag his tail and show his teeth which was always a proof that he was especially delighted. B., 10. Color black, feet white stripes, piece of white on the side of his neck, point of his tail was shaggy, his whiskers white, and he had sharp teeth.

When there were fewer polished objects for adornment, it is

no wonder that the teeth of dogs were coveted among primitives. Men, women, and girls wore the eye-teeth of dogs and other animals for this purpose. They were used as a breast ornament at Frederick Wilhelm's Haven, in New Guinea; and as necklaces and bracelets in the western part of the south coast of the British portion of that island. A traveller on the Solomon Island, saw 500 dog teeth in a single necklace, each carefully bored through. They were taken, two from each dog when alive. In the southeast portion of New Guinea all four eye-teeth were taken and used as money. The Igorotto wear ornaments of dog teeth. In Africa, similar necklaces have been seen (58). The old eastern legend will be remembered, how, it is said, Jesus and his disciples approached the body of a dead dog, when Jesus said: "Pearls are not whiter than his teeth" (36).

The appropriateness of trimmed ears and a cobbed tail, seems to be recognized by some, without comment as to the cruelty of the treatment, except in one case where a girl observes that her dog was pained by it, and another whose dog suffered, but there was nothing else to do to make the dog fashionable. This habit of tail amputation was resorted to by the Esquimaux of Alaska, where they drive their dogs four abreast, and have them follow each other so close that the tails were too much in the way (58). In Plutarch, it is related that Alcibiadar had a dog whose beauty was great, but he had his tail cut off, indicating that thus the dog was disfigured, that instead of appearing in fashion, he was out of style so much that his friends criticised him. He said if it were not that, they would speak of some greater fault. Langkavel (58) speaks of dog mutilations by the English, but contrasts it with the savages who do not mutilate their animals. Convenience, appearance, and contrasty effects, have been, then, the interests which have led to mutilation.

4. *The interest in the dog's food* is not much in evidence, perhaps from the general feeling sometimes present in the reports, that a dog needs very little genuine care, and from tradition in regard to his food. That the anthropomorphic idea of feeding prevails, needs no further proof than to list the articles of diet in descending order of frequency of mention: Meat, milk, bread, potatoes, candy, "all kinds," bones, cakes, gravy, ice cream, cooked meats, dog crackers, coffee, soup, peanuts, pie, apples, vegetables, force, eggs, crackers, tomatoes, fish, turkey, liver, sugar, corn pone, chewing gum, and pretzels. This may throw some light upon the thoroughness with which the dog has been made a domestic animal, and how much he has become man's companion. The time for feeding has been given but slight attention, but it is usually after the family meal,

when he enjoys the remaining viands, or the plate scrapings, or what has been shaken from the table cloth, as, when Lazarus begged at the rich man's gate. Some discrimination is made in favor of puppies, which are fed soft foods, and more frequently, although all are fed much more frequently than dogs require food according to the best authorities, and given also, without discrimination, a greater variety. The dog seems to be so abundantly able to help himself that the whole matter receives less attention than one might suppose. There is concern for the dog in many cases, however, and such as would contradict Cornish (23.xxv), who contends that the dog is largely a vegetable feeder, for meat is clearly evident as his leading diet, although cooking may have much widened his bill of fare, and necessarily along the vegetable line. A large number say "he eats everything," or "anything." Perhaps Langkavel would include more than the children mean when he speaks of the value of the dog as a street scavenger; man feeding him what he does not want,—as dead animals, the bones of game, and in many cases, human corpses. This is, and has been true, in many places and times in the history of the dog, however, among the Mongolians of Asia with "misera plebs," in Bactria, by Hyrcanians and Sogdians. While the Kalmucks burn the corpses of the better classes, the inferior types are thus disposed of. In Kuldja, beggars are fed to the dogs (58); "in Urga, the dogs stand waiting for his last breath, and he is devoured." It is said that in Kuldja even the better class are merely carried to the cemeteries while "the dogs conduct the interment by means of their stomachs" (58). In these particulars and that of the authentic case in Chambers' Journal for '81, where a Scotch terrier killed and swallowed twenty-seven mice, and where, as the children have noticed, that dogs bolt their food, the dog has not gotten far from his original habits when all these things were necessary to life. It would seem, from our papers, that even now these traits are not without their genuine service to our canine friend.

But there is another side, more prominent with the children, which accounts for the many over-fed dogs, dogs too fat to be active, too round to be shapely. As will be noticed, his appetite is catered to in the way of sweetmeats and all things that the children care for. The animal of the child's affection must have a comfortable stomach, a feeling that has doubtless prevailed in parts, ever since his domestication. In many instances the motive has changed, for his use has changed. Mr. Oldfield (25.199) says the Aborigines of Australia are so anxious about European kangaroo dogs, that several instances have been known of the father killing his own infant, that the mother might suckle the much prized puppy. Of course the

practice of suckling puppies in dog eating countries, as in New Guinea, Tahiti, Hawaii, and Society Islands, is well known (58). Joest saw in Burma, in 1879, a girl nursing her own offspring at one breast, and a pup at the other (58). In Gran Chaco, women nurse young dogs, but not motherless babes. The dogs in parts of Siberia are well cared for. The people endure pangs of hunger to support them. Along the Kolyma, 2,265 dogs each receive four herrings daily, or 3,306,900 fishes for a year's support (58). In North Borneo, flesh is suspended from a tree, where dogs eat it to acquire courage for the wild boar hunt (58). In some sections where our returns have been collected, there is a feeling that gunpowder fed to dogs will produce a courageous hunting dog. This did not appear in the returns, but many mention feeding this, or sulphur, in food for health's sake. Hopkins (47) observes that in the Rig Veda the dog is so much the companion and ally of man that he pokes his too familiar head into his master's dish; which is the intimacy of many of our dogs under consideration. Perhaps no dogs were better cared for than those of Queen Victoria (15), whose feeding time was 4 P. M., the food being prepared in a special kitchen, and consisting of soaked biscuits, vegetables, meat, bullock's head, pluck, and sometimes a little beef. Oat-meal was added. Stables (92) says the dog should have a very light breakfast, and a dinner at 4 P. M. in winter, and 5 P. M. in summer, and suggests as an ideal bill of fare, that similar to the one used in the Queen's kennels. There seems to be a consensus of opinion that one-third of the amount of food should be meat, but these points have not been observed by any of the children.

Sir Edwin Landseer, who, by some, has been styled the "Shakspeare of Dogs," has not overlooked in his paintings the boy in relation to the dogs' diet, in this friendly and careful relation of the one to the other, in his "The Highland Breakfast." He has shown here many points, but one cannot observe it without the recognition of the genuine satisfaction of the dogs, and the modern dog nature as to his foods, but especially the pleasure of the boy in observing the dogs.

Upon the whole point of hygienic diet, it might here be observed that with a pet so universal, some practical lessons of hygiene, and an excellent point of contact with this subject and the child, has been generally overlooked by teachers. The best way of getting a valuable knowledge of physical comfort is by a comparative study such as here afforded.

5. *His bed* is as varied, depending upon size, disposition, practical wisdom, sense of fitness, etc. Some observe that their dogs are almost entirely nocturnal, or that they have a rhythm of rest and activity through the day, and that their

sleep is so light at night that they are aroused by noises that the human ear does not detect. A general feeling that he must be comfortable in sleep, seems to characterize the returns, as will be seen in the illustrations following.

G., 11. He sleeps in a basket, and he is always awake when I come down stairs. G., 11. He had a very comfortable bed and he showed that he liked it. He would sometimes play with the covers. G., 11. He sleeps under the stairs on an old comfort. G., 11. She likes to sleep in the coal house. B., 11. He sleeps in a large box at night when it is cold. B., 11. He sleeps in the little house made for him. B., 11. In a box in the kitchen. B., 12. On the porch in a box with a piece of goods to sleep on, and something to cover him. G., 12. Curls up in the box filled with hay, and we cover him with the blanket mamma made for him. G., 13. Sometimes about four or five o'clock in the morning she would get in bed with me. B., 13. At bedtime it will hide until we are in bed, then it will get in bed with us. G.,—. Under the stove in winter. G., 13. Prefers the lounge or sofa pillows to his box in the yard.

That the dog must be comfortably provided for by the master, and that no other would do quite so much for him, must have been the spirit of the people in Homer's day, for he makes Argus a neglected dog after the departure of his master, making his bed on a manure pile, dirty, full of parasites, and swarming with vermin (22), although the Greeks had the reputation of caring for their animals and giving them the best of the field. The gods honored them with their harvests (57). Darwin, while at Cambridge, won the affection of the dog of his cousin, W. D. Fox, and it is believed that this may have been the animal that used to creep down inside his bed, and sleep at the foot every night (28.91). His dog Polly had her home in a basket in his study (28.92). In general a pet dog is too highly humanized to be placed in a kennel made of a barrel, filled with straw with an opening even at the side, near one end, and open to the leeward, as recommended by men of dog lore.

Desire to produce efficiency, interest in personal comforts of the dog, economy, attachment, a desire for close relationship, have been some of the various factors impelling the child and the race to the food and shelter interests upon the dog, which, in many cases, has not been sufficiently great to produce a feeling against using him as a scavenger.

6. Scarcely more than one-fifth have had any *experience in nursing* dogs through any sickness, or have needed to administer any remedies. One sad thing seemed to be that in cases that seemed hopeless so many times, artificial death, like in the philosophy of Seneca, seemed to be the way of escape. Some experiences have been interesting and profitable on the part of the child and the dog. The illustrative expressions are as follows:

"Rocked it to sleep," "went for the doctor," "put it in warm water," "kept it nice and warm," "sent it to the dog hospital," "bound up its sore foot," "sick from over eating then gave him only limited rations," "druggist gave me medicine," "had consumption and I took him to the pound," "gave him sweet milk when he was poisoned," "would eat grass and be all right," "when he was ill we sent for a book on dogs."

It will be seen that hydrophobia, epilepsy, constipation, accidents, nausea, tuberculosis, nostalgia, and general diseases have been diagnosed, and in many cases the children have been stimulated to seek further knowledge that the dog may be genuinely cared for. It is certain that a feeling of sympathy prompted the care in every case. In some cases, where it was evident that no help could cure, the dog mysteriously disappeared. None ventured to nurse a dog through hydrophobia, which is universally dreaded, although Byron's love for his dog Boatswain, prompted him to do even this (61). This fear of the disease hydrophobia, is due, doubtless, to the folk lore of this country that one bitten by dog will go mad if the dog goes mad, and at the same time. This is true in Great Britain (30). Shakspeare has evidently made use of the idea in The Merry Wives of Windsor (IV.2), "This is mad as a mad dog," and in The Comedy of Errors (V.1), to show the force of jealousy,

> "The venom clamorous of a jealous woman,
> Poison more deadly than a mad dog's tooth."

The interest in providing remedies for pet dogs in this and the more hopeful cases of sickness, has inspired much study, not only, as has been seen, among children, but among adults, and has called out some excellent manuals upon the treatment of dogs, best of which in English, perhaps, is that of Wesley Mills, M.D., of Canada. Pat, the famous dog of the 72nd regiment of Scotland, when taken ill in Egypt, was sent home that he might have the best treatment, and for this purpose highly enthusiastic devotees have founded hospitals. Ferrero (35) refers to the fact that in India there have been animal hospitals from time immemorial, and at Halloway, in October, 1860 (73), a home was established in London for lost, starving, and sick dogs, with the following motto: "I cannot understand that morality which excludes animals from human sympathy, or releases man from the debt and obligation he owes to them." Within a year this place had fifty annual subscribers, and another fifty donors. It owes its existence to a benevolent lady of Canonbury. Following this example, such hospitals are now numerous in all sections of many countries. In Germany (42) there are establishments for washing, shearing, cropping, and training dogs.

The returns, as will be noticed, show a recognition of the

dog's appreciation for injuries cared for, or for nursing in general, which is not alone a juvenile fancy. Gordon Stables, M.D. (93), rendering medical service to dogs, has observed that having removed a lachrymal fistula from a Pomeranian, three miles away, and having nursed and cured him, the dog afterwards paid him periodic visits. His own dog Tyro, on being periodically tapped for dropsy, would go around the room and lick the hands of the assistants, as he believed, in gratitude, realizing that the operation was necessary. He believes the same dog showed appreciation to a woman who saved his life by holding a cut artery, that ever after, although he did not like cats, he befriended hers. Dr. Lindsay is quite serious in his work on animal psychology, that dogs have this fine sense of appreciation and a knowledge of the purpose of one who operates upon him, but it seems that while the observations may be as recorded in every case, a careful study might not always warrant the interpretations placed upon them. For instance, would not and have not dogs licked the hands of those who have purposely done them an injury? But in our returns, whatever the dog's attitude may be, in truth, we see the rudiments of that which grows into the numerous enterprises for the the care and comfort of the dog, which is the object of so much of our affection and sympathy.

PART B. THE PSYCHIC LIFE THAT HAS INTERESTED MAN.

So far as this study has proceeded, it has doubtless become evident that the centre of interest, which has made itself felt in naming the dog, which has influenced choice, given meaning to various breeds, and induced him to be fed and cared for in sickness and health, has been in the main the nature and type of mental power, the character and scope of emotions and activities which the children, adult admirers, and the race have been induced to give to this favorite pet. The question which next concerns us then, is, what is the psychology of the dog, as seen by children and other admirers? What is the type of mind with which, in a composite way, it has drawn out the race and the child in this great interest?

I. *Intelligence.* Comparative psychologists differ largely in most details, and such men as Romanes, Lindsay, Courmeller, Houzeau, Alix, etc., construe in an anthropomorphic manner, while Ribot is less so, and Morgan and Thorndike seem to be almost alone in the conservative field, following the motto that nothing shall have a higher interpretation than is necessary to explain. Hachet-Souplet (43) caution students against accounts given by friends of the activities of favorite dogs, yet place him high in psychic power. Whitman (103) calls attention to

gross errors of interpretation, and exhorts to "make haste slowly." Zabriskie (105), who acknowledges that he never knew but two dogs, and those unfavorably, contends that there is too much abnormality of feeling about him, and believes all would be better if less sentimentality existed upon the point. That such a type would be as little able to interpret a dog's power as a devoted friend, goes without saying. Lubbock (64.272) admits the true friendships of dog for man, but contends that we do not know the nature of his mind. Morgan (71.140) says his intelligence ceases with the concrete, and his acts are of the sense trial and error order. Hachet-Souplet (43) make his intelligence "overt," throwing light on reason, abstraction, etc., which is virtually an agreement with Morgan's statement. But that the dog is valued more for his mental qualities and senses than for any other reason, has been observed many years ago by Darwin (25.205) and is substantiated by the many anecdotes written of him, and the copious illustration in the returns from the children. Schopenhauer (4.67) believes the difference between man's and animal's mind is quantitative, not qualitative; and Jesse (53) gives the dog every quality possessed by man, although not all in the same dog. William Smith, author of Thorndale, calls him "an arrested development of man" (16). It is rare that his intelligence is not attributed to his long association with man. His bark, as will be seen, is perhaps due to this change, and he certainly conforms more or less to man's notions, either for the good or evil of the dog. Romanes (84.437) takes the view of improvement, and Evans (31.218) calls attention to what is probably true, that in China and Polynesia, where the dog is used merely for food, he is a dull and sluggish beast. There is a feeling in parts of this country that to know the character of a man's dog is to know the man. The observations, selected to show as much variety as possible on intelligence, are as follows:

B., 12. When you let him smell a handkerchief, then hide it, he will find it. G. 11. Used to come to mine, and to my brother's room, and wake us up in the morning. G., 11. If I were up stairs and mamma wanted me, the dog would come up and bark to tell me. If we do not want him to know what is taking place, we must spell some words like *out*, *walk*, and *take*, and even then he seems to know. G., 11. If his first call in the morning was not heeded, he would make the second trip after me. G., 12. He distinguishes between the two telephone bells and the door bell. When the door bell rings he runs to the front door, barking. When the telephones ring he lies quiet. G. 12. Its brightest thing is that it sits up in a corner and counts seven with its fore feet. G., 12. When he wants anything he will bark three times. G., 12. She can understand French, because my uncle always speaks it to her and she understands him. G., 12. Think he knows what we talk about, for when I must go to the store and I ask for the basket, he

goes to the place where the basket hangs, and barks. B., 12. I taught him to come when I gave a certain whistle. B., 12. One day a mouse got in the sweeper. Ever since then every time my mother uses it he barks. B., 13. If I say 'cats' or 'rats' it will put up its ears and look in the corners and under the bureau. G., 13. She seems to understand and obey me, but no one else. G., 13. He will be very quiet while we are eating, but if he thinks we are too long he will put his head in my lap. If mamma says, 'Is the boy hungry too,' he will bark, wag his tail, and run out in the kitchen. G., 13. He can understand German and English languages. G., 13. Its mistress before me must have used the broom as a reminder, because he always growls when we show it to him. G., 14. When mother rattles any money he barks, thinking we are going to the store, and he wishes to go along. G., 15. He can always tell the butcher's bell, and he barks till I give him a piece of meat.

In observing these returns, and the various writers upon the psychology of the dog, we note the following points of interest:

1. *Perception.* Although we have no record of his reaction-time having been studied experimentally, it is generally believed, with Charles Dudley Warner (99), that it is shorter than man's, and perhaps his hearing is more acute, while his scent has been regarded as superior. Grant Allen (2) believes it is his sense of smell that makes him intelligent; that by scent he knows his master and objects, and calls attention to the size of his olfactory lobes. Romanes (86.93) says "the external world must be to these animals quite different from what it is to us; the whole fabric of their ideas concerning it being so largely founded on what is virtually a new sense; not simply our own sense greatly magnified" (smell). And later (67) he made some very careful experimental tests upon a dog which he owned for eight years, which show his remarkable power of scent. His observation by sight has impressed itself very much for he has been attributed the power of reading facial expression to a great degree. His acute hearing makes him the trusted guardian of the house, a police assistant, and a servant in picket duty. Morgan (71.144) makes his dog a keen observer by saying that he always lifts the latch of the gate in the way he did it in the first time. After the habit was once formed it can otherwise be explained, but not until then.[1]

2. *The memory* of the dog has impressed people throughout civilization. Without it his many examples of fidelity would be lacking. Homer, in the Odyssey, makes the dog Argus recognize his master after an absence of twenty years, and Darwin (27.74) (28.91) had a surly dog, savage to others, which, after the return from his Beagle voyage, being absent five years

[1] Upon this point Hobhouse, in Evolution of the Mind, suggests in opposition to Morgan and Thorndike, that attention is an important factor.

and two days, rushed out and set off with him on his walk as he had done five years before. When Geddes (61) desires to note the change produced in the dog's mistress by having her locks cut off, he has the dog not to recognize her. In Southey's poem, "Roderick, the Last of the Goths," none recognize the hero on his return, not his own mother, but Theron, the dog, follows him. A writer in the British Quarterly Review observes that when a dog's master has deserted him, in despair the dog takes the cast off clothing, lies upon it for days. This is paralleled by the behavior of one of the dogs in our returns when the clothing of his little mistress are seen. Grant Allen (2) thinks the dog knows old friends by memory of odor. But this could not be entirely correct if I interpret correctly a small dog's behavior in front of a life size portrait of her mistress, deceased sometime before; a fact which has likewise been observed by Romanes (84.449) and Alix (1). Jesse gives various anecdotes of these interesting observations. Gerald Massey, in the beautiful little soliloquy by the dog before the boy's portrait in "The Dead Boy's Portrait," has immortalized this sentiment of the dog. Dogs trained to bring cards in order (71.200), ring bells (65), know words and sounds (70), etc., must have some degree of memory, perhaps much of it a muscular memory. Scott, in the Talisman, recognizes the trustworthiness of the dog's memory in having him bring a culprit to justice—having Richard say of Rosval, "He forgets neither friend nor foe, remembers, and with accuracy, both benefit and injury. He hath a share of man's intelligence, but no share of man's falsehood." . . . "You may bribe a soldier to slay a man with his sword, or a witness to take life by accusation; but you cannot make a hound tear his benefactor." He continues to suggest that no possible disguise can put him beyond the dog's recognition.

3. *Imagination* has some attraction. Dreams, a fact observed by naturalists and others, Darwin (27.74) believes to be the best evidence that he has an imagination. Jesse (64) notes this fact; Romanes (86.148) says "that dogs dream is proverbial," and it has been observed by Seneca and Lucretius. It has been noticed in our returns that dogs run around the house playing with some imaginary things. Dogs barking at the moon on a bright night is thought by some to be an illusion. Tennyson, in Locksley Hall, Pt. 1, speaking of Amy's husband, "Like a dog he hunts in dreams."

4. *Judgment and reasoning*. Evans (31.86) says that the dog distinguishes between canine and feline. Darwin (27.75) says animals may be seen to pause, deliberate and resolve. Lindsay (63.462) believes dogs can judge distance; judge rapidity of currents; has idea of money; and quotes Watson

as authority for recognizing distinction of human rank. Lubbock (64.277), (also 14), could not find in an experimental way that a dog knew how to count. Piatt (76) is impressed with the discrimination of dogs. He had one which separated a calf of the household from a drove of his neighbor's cattle. Many say the dog has idea of time. Warner (99) says his dog has little if any idea of number and cannot compute the passing of time. Lindsay (63.II.393) uses the illustration of Landseer's dog (in begging of his deaf father would always bark louder) to show that he knows man's infirmities. But other dogs bark in degrees of loudness, when such conditions do not follow. Morgan (71.200) makes use of the anecdotes of dogs calling others to their assistance. Büchner (14) quotes Duncker of a dog in Pyrmont, which duty it was to watch the stock, and especially the poultry. He used to hunt hidden eggs and bring them to the kitchen. He once laid one on the sofa instead of the stone floor as usual owing to the imprisoned chick that was in it. He assisted the chick out with his tongue, and became its nurse. Dr. Bardeen (6) speaks of a dog at the University where he took his medical course, having had a silver fistula for the purpose of obtaining the gastric juice. The cork came out and the dog kept himself on his back while the food was digesting in his stomach. Robinson (81) quotes Dr. S. T. Pruen as reporting a dog's going to leeward side to get the scent, then the Skye standing wagging his tail to line up the pack, then jumping in and running out the rabbit. Romanes (84.457) of a dog's act of inference in tracking his master who had three possible ways of going. Having smelled for the trail on two of the ways, he went off on the third without smelling. Houzeau's dogs went where from the natural slope of the land there should be water, but came back disappointed at not finding a drink. He believes they reason in some form (48.265). He compares the dog's powers to a child of one year. To use Morgan's method, most of these examples of reasoning may be explained in some other manner. He says (71.271) that if a shepherd's dog watching a flock were closely observed it would be seen how well the dog knows and responds to the signal of the master, and how completely all initiation is in the master's mind. Schopenhauer (4) is quoted as denying reason to animals. James in his Principles says about dog reasoning: "The mental process involved may, as a rule, be perfectly accounted for by mere contiguous association based on experience." Ribot (78.30) says that it consists of a heritage of concrete or generic images, adapted to a determined end, intermediary between the precepts and the acts. They reason by a generic image and lack substitution (79). To this he thinks James and Romanes would agree. These latter opinions seem

to be the safest from the standpoint of most recent study, but it appears not to be the most pleasing consideration to most of the genuine dog enthusiasts.

5. There are a few *cases of orientation* in dogs which seemed to make an impression upon the children. None of the cases were of the extreme type of finding the way over a country which they had never before been, as will be noticed in the examples.

G., 11. If I ever wanted to go any place where mother used to take me, Beast took me, because he remembered the place, and brought me safely home. G., 12. He had visited friends in Trenton (N. J.), and so one morning he went down to the station (Steelton, Pa.), got on the right train, and went to visit the same people.

Grant Allen (2) refers to a hound which had been sent from County Dublin to County Meath, thence, long afterwards, to Dublin town where he broke loose and completed the third side of the triangle, not before traversed, that he might get home. Dr. Oswald (74) made elaborate experiments upon dogs, taking them drugged and at night, 60 miles from where they had ever been, and in a short time they came home. He believes in a special sense of orientation. Romanes (84.468) refers to a case of a dog's having hunted his master by train. Dyce (88), a famous Edinburgh dog, fell out of the military train in India and was supposedly lost, but he appeared at the next station. Monteith (70) mentions a blind dog which was taken to a place six miles from home, and she found her way home to San Diego. Ouida (75) has a Pomeranian, quite blind and deaf, which is instantly aware of her presence, and "follows her about with unerring accuracy." Mills (69) observed a dog totally blind, which knew every regular thing in the room, but ran against any new objects. Smell has been suggested as an explanation for sense of location, direction, etc., with dogs; others admit that we do not know; while a few believe in a special sense. Helen Keller (56.119) may throw some light on the question when she says: "It is fun to try to steer (a boat) by the scent of water grasses and lilies, and of bushes that grow on the shore." But this offers no clue to many of the cases enumerated.

6. *Intuition.* There is a certain power apparently recognized to exist in a dog, which, on the one hand may be classed as power of inference, yet in another sense it is more nearly like what some psychologists have styled, intuition, or a means of knowing very many things intuitively. The classification is difficult to make, and without fine discriminations they are here offered.

B., 14. He would pretend he was sick. G., 9. When I lie down and pretend I am going to sleep, he pulls my hair. B., 11. When I am

mad and going to give it a licken, he understands what I say. G., 12. When he hears that he must go to the shed he hides somewhere. G., 12. When about to be punished for disobedience he would sit up and wink his eyes very hard until the tears ran down his face. G., 12. When we speak of him he goes over and lays his big head on our lap. G., 12. When he is tied in the yard he will watch how we tie the knot, and in about half an hour he will be running around the yard having a fine time. G., 12. He sometimes lies on the floor with his two paws over his ears pretending to be sick. But as soon as I say 'Come, Roy wants some medicine,' and give him some milk, he is all right, and comes around loving and kissing me. B., 13. He wants to be in everything. Papa took some pictures of the frozen and icy scenery about the home one day, and the dog was determined to be in every one of them. B., 13. Every time the milk man would come he would run out to the gate and look back to see if my mother was coming. He did it because when she came in she would give him some milk. G., 15. When he had done wrong and I punished him he walked away, but soon he came back, extended his front paw as if to shake and make up. G., 15. If we caught two rats in a trap, and let them out at once, he would grab and bite one enough to disable it, then he would grab the other, never letting either of them get away. G., 16. He would overtake us and be at the place we were going before we could arrive. G., —. If any one was playing with him and laughing, he would take on a very funny expression which was just like a smile. G., —. He seemed to understand every thing I said to him. If I told him he was a bad dog he would come cringing up to me with his head and tail down. If I told him that he was a good dog, up went his head, and he would jump around and try to show his joy. G., —. He would lie on the couch like a child until all the family had looked at him.

It is doubtless the recognition of such power that prompted Dickens to characterize Bullseye, Bill Sikes' dog in Oliver Twist, as knowing the real character of Sikes when he intended to kill the dog, which always managed to keep away from Sikes just far enough. Lee (59) says he knows and shuns his enemies. Many believe animals know the difference between intention and make-believe. Westcott (102) reports that a dog having heard his master threaten to shoot him, never again became the friend of the man. Dyer (30) gives report of folk lore in regard to the dog which would be easily connected with this idea, namely, that the dog knows approaching danger and foretells it. The howling of a dog under a window foretells death. Pausanias relates how, before the destruction of the Messenians, the dogs set up a fiercer howl than usual. And Vergil, speaking of the Roman misfortunes in the Pharsalic war says: Obscoenique canes, importunaeque volucres, Signa dabant. Capitolinus tells how dogs howling presaged the death of Maximus (30). Among the Highlanders of Scotland there is a feeling that if a dog passes between a couple to be married, or jumps over a coffin, he must be killed (30). The dog as the omen of death, exists in German mythology (58), in France (58), and at least in parts of Pennsylvania. In Formosa, when the dog howls the people have the priest come, for some mem-

ber of the family is about to die (58). Courmelles (29.236) says, too, that every time the dog paws the ground, eats grass, and paws in barking, it is a sure sign of rain. Lindsay (63.I. 153) says that the dog has premonitions of death, danger, and misfortune.

Romanes cites Spencer as observing that his dog associated the fetching of game with the pleasure of the master, and she would perform this act of propitiation even with a leaf. He believes it similar to certain fetichistic observances (86.155). The Spectator (110) says they do tricks to please the master, and are sometimes guilty of affectation to attract pity and get petted. A dog will limp long after necessity, if by that means it gets petted. Hutchinson (55) speaks of offending the personal dignity of a dog by watching him. Lindsay (63.I.295) says he has a feeling of shame, and is susceptible to praise and blame.

8. *Communication.* Almost unanimous is the expression of the returns in favor of the dog's ability to understand. He understands voice, facial expression, gesture, and pitch. "Hunters and shepherds know that dogs understand exactly their speech," says Langkavel (58). H. Carrington Bolton (8) says that in India the natives carry on conversation with their bullocks, and that "speechless animals doubtless comprehend the tone of voice, expression of face, and gesture." He observes that man pays an unconscious tribute to the dog by addressing him with words of ordinary speech, while in addressing other domestic animals he uses terms which he never uses in speaking to his fellows. He might have included the language addressed to children by the folk. Generally, trainers and others use few words, and the children do likewise. Substantives and verbs only, are used, as Hachet-Souplet suggest (43.107). It has been observed that English dogs are stupid in France, because they do not know the accent (16), which would imply that manner of expresssion likewise assists, although Romanes (85.99) relates that the dog of his friend Prof. Yeo distinguished between "paid for" and "pinafore." Warner (99) admits what is a common feeling in our returns, that his dog understands him better than he understands his dog. Brehm (10.210) has observed that he knows the language of the eyes and face, and Letourneau (62) goes so far as to say that the dog understands the language of different animals. Monteith (70) speaks of a dog which knows what people are talking about.

That the dog talks is almost as thoroughly denied, although most will admit that he has the power of communicating certain ideas and needs. In the representative expressions which follow, it will be seen that the dog's language is very similar to

the human modes of expression, being by modulation of the barks; succession of barks; by the eye; or by general bodily attitudes, the tail playing no small part.

B., 7. I think it said, "I want my dinner." G., 9. Said, "good morning" one day when I came home from school. G., 10. He comes to me waiting for his meal. I hold up a bone and say 'speak.' He stands on his hind legs and barks. B., 10. He can talk in his way, that is, to whine. B., 11. He can act in the show and can talk. G., 12. He can almost talk with his eyes. G., 12. At times one could almost imagine his asking for a drink by the expression in his eyes and his actions. B., 12. He can talk in one sense. When he wants a drink he will sit at my feet and look into my face and bark as though he says, "I want a drink." B., 13. By actions he can make himself understood. B., 13. He would bark in a different way when he wants me. G., 13. He cannot talk by articulation, but by signs. G., 13. When you are eating, and he would like to have some, his eyes look so pleading as if to say 'please may I have some.' G., 13. He says 'please' by growling. B., 14. One means of making himself understood is by talking with his tail. Any one who has a dog can very easily tell by the movement of his tail what he tries to say. B., 14. Talks with his eyes and tail. G., 15. Taught him to hold a book and bark as if reading. G., 17. He seems to be able to talk with his eyes.

While the curve of belief in talk gradually declines with the age of the child, like that in the study of the crow, the bark has made an impression that seems to develop the confidence of children, and there is a pretty general feeling, since barking is an acquisition of the dog in domestication. [See Darwin (25. 27), and Evans (31.219)], that it is his improved method of thought expression. Bannister (5) and others call attention to the fact that the Esquimaux dog does not bark. Some relation similar must be felt by the Hawaiians, among whom there is a belief that men, on account of their evil deeds, may lose their voices, and must, for punishment, bark like dogs (58). Hachet-Souplet say (43.105): "It seems that barking is an imitation of human speech, and such is their flexibility that they express shades of feeling understood by their masters. Anger is distinguished from joy; pain has a distinct lamentation; ennui can be known." Darwin expressed the same idea much earlier (27.84). The inhabitants of the Gold Coast formerly believed that the European dogs could talk" (58). In Unyoro it is believed that the dog is endowed with speech. Lindsay (63.I.355) quotes Sir Walter Scott as entertaining the belief that the intercommunication of thought between man and the dog is capable of much improvement. The whole idea that there is ability to communicate is, perhaps, one of the reasons that the dog is so companionable to men; and Hood, in his Bachelor's Dream, has illustrated it reasonably well.

Habitual signs of special dogs are interesting, and have been noticed by the children.

G., 10. When it wants a drink it goes to the sink and stands up, and then barks. B., 14. When it wanted you to get a drink it would bark and claw you, and then run to its dish and bark. G., 14. Whenever it wanted a drink it would put its fore feet up to the sink and whine until some one gave it a drink. G., 14. It would hunt for things stored up, and it would sneeze for them. G., 14. When he wanted a drink he went to the spigot and pawed on it until some one gave him a drink. G., 15. If you ask him if he wanted some candy or peanuts, he would hunt through your pockets for them. G.,—. When he wanted anything he would paw at my clothing, then go in the direction to which he wanted me to go. G.,—. When Sport wished a drink of water he would go to the pump which was in the back-yard, and whine until some one gave him a drink. G.,—. He would crawl all over the floor when he wanted to be taken out. When given permission he would go and get his blanket, carrying it in his mouth to have it put on.

Cornish (23.320) says a terrier can almost transform his whole body into an animated note of interrogation. He gives an account of a retriever in London directing a team by taking the driver's glove and running ahead to where it was to go. Romanes (85.100) describes how a dog outside of his house went in to arouse another from sleep, that the two might go out after a cart which was passing. The same author (84.425) speaks of a dog which had been taught to knock at a knocker to get in. Mr. Rae (Nature, Vol. XIX, p. 459) describes how a dog would ring a bell to call the servant. Romanes (85.99) gives an instance of a dog's wanting a drink when the servant was busy, so the dog took the drinking cup to the servant. He believes that the panting habit of some dogs is a gesture sign.

II. *Interest in emotions.* No one to my knowledge will deny emotions to dogs. When it progresses to the extent of a religious and moral sense, perhaps more will deny than admit. De Courmelles (29.314) enumerates in ascending order in animals, the feelings which he believes to exist, as follows :— timidity, surprise, astonishment, fear, conservation of the individual and the species, sexual attractions, paternal affection, the fighting instinct, recognition of offspring, sociability, jealousy, anger, joy, affection, sympathy, emulation, vanity, resentment, love of show, appearance, terror, chagrin, hate, cruelty, benevolence, vengeance, rage, honesty, remorse, deceit, and laughter. The last, he believes, is very rare. It is not to be supposed that all these should be seen by the children, in their pets, nor would it be surprising if the author were unable to draw the lines and give the differentiations up the scale, that this list would seem to promise.

Those feelings which have especially interested the children are :—

1. *Joy.* Joy is expressed in the dog by jumping up and down; running around; his eyes have a characteristic look; he

wags his tail rapidly; curls it up on his back like a plume; curls up his upper lip; and he barks with quick, short barks.

2. *Sadness* is much less frequent, and is shown by a limp tail.

B., 9. My dog showed that it was happy by jumping up and down. G., 10. Happy when he sees us come from school. B., 11. Very sorry on my leaving. On my return he wags his tail and barks. G., 12. His eyes showed that he was very glad. B., 12. When he wags his tail he is happy, and when his tail is down he is sad. G., 13. When he is happy his tail curls up just like a plume over his back, but when he is unhappy, it is left hanging limp, right behind his back. G., 16. He will bark, wag his tail, and curl up his upper lip just as though he were laughing when we come back to him. G., —. When Rover was glad he would leap up and down and wag his tail hard, and bark with quick, short barks.

A comparison of these returns with Darwin's "Emotions" (26), would show that there is but slight difference of opinion, if any.

3. *Fear* has been observed, but it is not supposed that it should be frequent with children in relation to their pets.

B., 12. He is afraid of water, smoke, and fire. B., 13. He was very much afraid of thunder. On hearing it he would crouch under the table.

Fears of special things, too, have been noticed. One such dog was afraid of a broom, supposedly because his former mistress used it as a reminder. Romanes (86,155) speaks of a dog being afraid of a stick after being hurt by it. He records Darwin's observation on the conduct of a dog when he drew away from him a hoisted umbrella. Galton (39.215) goes a step further in suggesting a related feeling of curiosity to investigate, referring to the attention that a strange dog attracts. Spencer (86.156) believes dog fears are due to a sense of the mysterious; that the dog's knowledge of causation is like that of primitive man. Lindsay (63.223) under dog superstitions, classifies what may be observed as fears under (1) excessive reverence or fear; (2) false worship; (3) belief in what is absurd without evidence; and (4) idolatry of the unknown and mysterious.

4. *Love.* The dog is an ardent lover of his master, evidence of which is expressed in the following methods:

G., 8. "It runs to me;" B., 8. "the way it plays with me;" "because it wags its tail when it sees me;" "he jumps up on me;" B., 9. "he would bite the boy that would hit me;" "runs and plays with me;" "does every thing I tell it;" G., 9. "wanted to be with me all the time;" "licks my face and hands;" "jumps up on me whenever I go in the house;" "shakes his tail when he sees me;" "when it gets in my lap it whines and cries;" G., 10. "followed me everywhere;" "nearly goes wild jumping up on me after I have been away;" "jumps in my lap and looks into my face;" "rubs himself against my dress;" "wants to get near me and lick my face;"

"protects me;" "licks my feet, wags its tail, and jumps all over me;" B., 10. "always whines when I go away;" "followed me, and protected me from danger;" "speaks to me for food;" "almost knocks me down."

Darwin (26) says the dog shows affection by the head and whole body lowered, the tail extended and wagging from side to side, the ears down and backward, and the whole appearance of the face altered. The lips are loose, the hair is smooth. They rub against their masters, lick their hands, faces, and ears; originating perhaps, in the habit of females licking their puppies. He (27) relates how a little timid dog, too weak to defend a lady receiving a pretended beating, returned afterwards to lick her mistress' face and try to comfort her. Mr. Hogg, Kingsley in Hypatia, Tuberville (61) and George Eliot, have interested themselves in the dog's love.

Some of the children do not believe the dog does love. Occasionally a sharp distinction is drawn between love and like, doubtless as taught in some text-books on grammar. These have an advocate in Adrian Leonard, quoted by Menault (68). He pretends that the dog does not love his master, but that he sees in his master the means of conservation, claiming that fear is the motive which prompts him to lick the hands of his master; and the instinct of preservation his general ruling motive. The other idea is the strong one, and has been of great educational value, as may be seen elsewhere.

5. *Jealousy.* Closely related to love is the feeling of jealousy observed by the children approaching adolescence. This is shown in most cases by growling, snapping, biting, and various forms of monopolies. The cause has been: another dog, a child, or other substitutions. The result is invariably ill temper.

G., 13. I had a friend stopping with me, of which he was very jealous. One morning we were weeding the garden, and he came and jumped at her and bit her arm. B., 15. He was a very jealous dog and the only time I ever saw him fight another dog was when I petted or spoke kindly to it. Then he would growl and fight the dog until he ran away from me. G.,—. Whenever he saw me petting another dog or cat, he would come to me and cry until I would pet him. G., 11. Snowball, a strange dog, jumped into papa's lap. Rob grew jealous and jumped up with all feet. B., 15. If any one comes to our house with a baby she will jump on my lap, for fear I will nurse it, for she is very jealous of babies. G., 16. When my little sister was born he was very jealous to think she was petted so much and we did not notice him as much as we used to. G., 15. The mother dog finally became jealous of her own pup.

Cornish (23), Romanes (84), Hutchinson (52) and Dr. Stables, have been impressed by jealousies which they saw in dogs of their own. It is reported as authentic (20), how a single gentleman enjoyed the companionship of a golden collie.

Not long after marriage the wife's only means of self defense, owing to jealousy, was to drown the dog in a desperate struggle in which he had forced her into a canal not far from their country home.

6. *Pity*. The highest level of sympathy of the order of carnivora, says Sutherland (96.I.330), is found in the dog. He believes the greater part to have been acquired by contact with man, yet he recognizes the companionableness of wild puppies tamed by Australian natives, and of wolves by North American Indians. This emotion is observed by children of every age, and may be a trait which makes the dog such a popular pet. Kingsley recognizes it in his Bran of Hypatia. In the picture of the murder of the Princess de Lomballe, by Gerard, a dog of this period—the reign of terror—appears. He has a tender heart. His eyes rest with pity on the princess. In the older pictures of the crucifixion, a dog is in the scene to pity.

G., 7. Pities me when I get hurt. B., 8. He pities, for when I cry it tries to comfort me. G., 10. It feels sorry for me when I am sick, or have the cold. G., 11. It shows pity by lying down beside me and wagging its tail. B., 11. When any one is crying he sits down in front of him, on his hind legs, and looks him in the face. G., 13. Sometimes if you are sitting very quiet it will come up and lick you as if it were pitying you. G.,—. Was sorry when he saw any one else sad. One day I was crying, and he came and smuggled up close to me and tried to kiss me. G.,—. Whenever I cried, he licked my hand as if to express pity. G.,—. She sympathized with any who were ill, and often when I was crying she would put her nose in my hand and stand still, or else lick my hand. G.,—. Carlo showed pity. Once he carried a bloody kitten into the kitchen and wanted the maid to care for it. G.,—. When my brother died, Tip used to come and lie at my feet and look at me as much as to say that he was sorry. When I spoke to him he would come into my lap and lick my hands, and try to lick my face.

7. *Antipathies* are recognized by the children, but none of them seem to be in any sense natural. The reason is almost always suggested, depending upon a wrong committed, and the remembrance of the same.

B., 12. Will not catch our chickens, but will catch other people's chickens. B., 15. Good to his friends, cross to others. G., 15. I could tease him and he would not snap at me, but he would snap at others. G., 12. He was caught by the dog catcher, who was a negro.. Ever since then he will not let a negro in the house. G.,—. Two postmen came to our house, one of whom he liked, the other he did not. One day the one he liked came, but he mistook him for the other at first, and ran down the steps and barked. When he discovered his mistake, he dropped his head and put his tail between his legs. B.,—. Had a dog that would not allow a peddler, or any one with bundles in the yard.

Allen (2) believes it is smell that produces some antipathies, referring to the idea that the spoar of the negro will drive the

bloodhound mad. He knew one in Jamaica that could not endure the colored servant that usually fed him. A writer in Chambers' Journal (17) says that Eastern dogs have an aversion to Western travellers, "while the vile Arab, tattered or leprous, may pass within an inch of their nose without comment." Cornish (23) and Jesse (54) say that dogs have antipathies to cripples and ragged beggars. Romanes (86.187) quotes Dr. Huggins in a case of inherited antipathy to butchers, running through several generations of dogs. Scott makes the dog Roswal in the Talisman, hate the traitor, and intimates that a dog has antipathies for such characters. Cumming (24) calls attention to the idea that antipathies to nationalities have been employed by the French in the South Tunisian campaign in 1881, repeatedly giving the alarm ere his human comrade suspected danger,—saying that the dog knew whether it was a Turko or an Arab. Lindsay (63.II.279) says that dogs have a strong repugnance to dog stealers, killers, or catchers. According to Cornish (23.166), belief in animal antipathies is ancient; as that of the otter versus the crocodile, the unicorn versus the elephant, the dragon versus the hart. He makes the broad statement that all monkeys hate a negro.

It is thought by some that the dog is cynomorphic in his attitude toward all externalities, his human companions and associates being considered in his own pack, and his master the "boss" of it. The fact that he hides a bone given to him, Robinson (82) thinks is proof of this. Many dog antipathies would be explained by them from this point of view.

8. A few have observed that *weather* and physical comfort or discomfort have their effects upon the disposition of the pet.

G., 13. In the summer time she is rather cross, but other times she is very happy. B., 14. He is very cross during the hot weather, and fights every animal he meets. G., 12. Sometimes bad, but when he is fed he is all right again. G., 12. Very cross when ill. B., 15. He had streaks for badness, like any boy or girl. G.,—. When he is hungry he is a little cross.

Chambers (21), Mills, and writers generally upon dogs' diseases, have observed that rabies is more frequent in warm than in cold weather. Charles Warren (100) has collected some important statistics relative to London dogs, which show that in hot weather madness is from four to five times the minimum of that in cold weather. The effect of hunger upon the disposition of any animal needs no comment.

9. Varied is the opinion of the *dog's musical sense*. Howling, to many, has been poetically called music. Some actually enjoy it in silence, others are pleased with parts and displeased at others. Some seem to fear sounds of most descriptions, and the children have been puzzled to know how to interpret the

dog's conduct in many cases. It is doubtless true that there is much individual difference on the part of children and dogs.

G., 9. Likes music very much. G., 10. If there is any music outside she will always sing with it. G., 10. When I play on the piano he barks. G., 11. Sometimes he hears a horn blowing and he throws his head back and sings. B., 11. A beautiful musician. B., 11. He does not like music. If he hears any one making music he will sit down and howl a sad tune. He will do the same when the fire-whistle blows. B., 12. Were at a parade one day and the band scared him, for I have not seen him since. G., 14. When a band is passing and Bob hears it, or if he hears a bugle, he will sing because he does not like that kind of music. G., 14. If a man would come around with an organ she would stop what she was doing, and set up a howl. B., 14. When mamma plays the organ it sings. B., 15. Sings only to accompany the piano. G.,—. Whenever I played the organ in the summer he would come up on the porch and howl. I thought he enjoyed the music, but papa said it worried him. G.,—. Unlike other dogs, when he heard music, he sat perfectly still, with erect ears. G.,—. Set up piteous howling when my brother played the harmonica. G.,—. My friend had a dog that would always sing when she played the piano.

Baker's (3) study of the effect of music on caged animals, may help to explain. He concludes that soft music is more pleasureable than lively jigs; that females are more attentive than males; that nocturnal mammals are more interested than diurnal birds. His experiments were made when the house was lighted by electricity, and his music made after dark. Evans (31.343) describes a St. Bernard belonging to his friend, which used to lie quietly when the violoncello was played, until his master struck up a certain tune, when the dog immediately and invariably sat up on his haunches and began to howl. Evans does not believe that the howling indicates that the sound is painful. Darwin (27.569) reports a letter he received of Mr. Peach, who has repeatedly found an old dog of his howl when B flat is sounded on the flute, but at no other note. Romanes and Huggins (86.94) have noticed dogs which accompanied a song, following the prolonged notes of the human voice with some approximation to unison, and to the notes of an organ, respectively. Alix (1.365) knows a dog which accompanies, very well, his mistress when she runs the scales on the piano. Dr. Weir (101.112) believes the dogs voice is "exceedingly" pleasing to himself as when "baying the moon," of which he feels certain from the fact that he always selects the same place for this sport. In the "Taming of the Shrew," one of Shakspere's points with the hounds was their ability to contribute tunefully and sonorously to the cry. "The triple-headed hound of hell" appreciated music. A dog is carved upon the sarcophagus, seated beside the chair of Phedra while the musician is dispensing music (57.14). These latter recognitions seem to suggest that the

dog has long been regarded as enjoying music, and as having some ability to execute a music of his own.

10. The curve of *belief in a dog conscience* at eight years, is about at 15% with both sexes, rises almost regularly, until at 11 with boys, and 12 with girls, it reaches its maximum of 33⅓%, then declines to about 23% for both at fourteen, when it again rises. It will be observed that never more than a third are positive upon this point. A few indicate that dogs mature into this power, but that puppies do not possess it. Many mention the symptoms, such as hanging the head, hiding, penitent eyes, and the like, as will be seen in the following records.

G., 8. Knows right and wrong, for when it gets cross it is very sorry afterwards. G., 9. He does not know right and wrong yet, because he is not big enough. B., 10. When I scold him he goes and hides because he knows he has done wrong. G., 12. If he gets up on a chair near the table and any one comes in the room, he runs out with his tail between his legs. He knows it is not right for him to be there, hence he sneaks out. G., 12. When I have punished him for having done wrong he comes along with his paws and puts them in my hand. He wants me to forgive for what he has done. G., 12. There is always such a penitent look in his large brown eyes, one finds it almost impossible to punish him for his faults. B., 12. When she does what she thinks we don't want her to do, she comes up to us and rolls on her back, and does everything she can to make up with us. G., 12. One day he killed a bird, and he tried to hide it, but we saw it and we locked him in the doghouse and did not give him any supper. B., 12. At first he was bad and we licked him, and now he knows right and wrong. B., 14. He does not like to look me in the face when he has done wrong; he also puts his tail between his legs. B., 15. When he has done wrong he will either look sheepish, or slide off under the stove where he will stay until he thinks you have forgotten about it. G., 15. Drops his ears and hangs out his tongue when he has done wrong. G.,—. Not being allowed to lie in the cozy corner on my cushions, when found in the act he would immediately walk out of the room in a dejected manner, evidently ashamed of himself. G.,—. Would look up into my face and cry when he had done wrong.

A writer (108) suggests that the dog includes a sentiment not unlike in ourselves we call religious. He has an imperfect worship, and noble impulses, but he is not responsible for bad, nor commendable for good. Evans (31.98) quotes Wayland, Hickok, and the Jesuit Victor Cathrein, as denying moral faculty to animals. Lindsay, Houzeau, and Sutherland, are positive of a dog conscience. Warner (99) says his dog frequently does things he knows to be wrong. "He seems to struggle in his nature to know whether he will please himself or me." Darwin (27.103), "I agree with Agassiz that dogs possess something very like a conscience." It is to be presumed that all that may be included as conscience may be explained as a process of training to know what is allowed and what is forbidden by the master, but this same law might cover most of what is thus catalogued with human beings.

III. *Interest in dog activities.* Having observed what are the intellectual and emotional types in which our children and others have been interested, we shall turn to the activities in which special interest has been shown, or that are believed in.

Among the doings of dogs one is able to find some of the traits which are the results of training into purely human qualities. Children seem to enjoy those activities most like their own, and are fond of thus training their dogs. At adolescence some differentation seems to come, and a desire to have him do things for which he is adapted. It is needless to say that the dog's intelligence is largely based upon what he can do, and his whole range of feeling is to some extent determined in his activities. Some things he does must naturally be considered under the sociologic aspects of the study, however, as will be seen.

1. *Hunting.* G., 8. He would get into the river and catch frogs. G., 12. He never catches birds. He is good. B., 12. He caught a fox when my brother was out hunting with him. B., 12. As a sporting dog he is great. B., 14. He and I killed over 200 rats one winter, and many rabbits. B., 16. He has caught four opossums, a remarkable thing for a pug dog. B., 12. He will track rabbits and scare up birds, and if you shoot them he will bring them to you. B., 12. The good thing about this dog is that it will go into the brush and weeds and other things and chase the rabbits out. B., 12. I put him in the box while the children lifted the lid. It was not an eye's wink before out of the box came Dewey, with a mouse in his mouth. B., 12. I like him because he chases foxes.

This activity is more in evidence with boys than girls. However, the curve rises in both cases, very rapidly with the boys, after the age of thirteen, at that age it being but 12% and 6½% respectively. This is one of the traits which Shakspere repeatedly refers to. Scott, in "The Chase," has aroused much sentiment, or has catered to a general interest in this sport. Their first activity in this direction was doubtless that they might assist in maintaining the tribes, after the real necessity of the dog to find his own food had ceased. The savages used dogs for hunting in Australia, New Guinea, among the Tehuel of Guanaco, in America, in Matto Grasso, in Ecuador. Natives of Haiti raised a breed of small dogs for hunting on the island (58). Before the time of Columbus, Tarumas had hunting dogs which were kept in a cage when not in use. Homer refers to "ferocious dogs" following the wild boar (57). Romanes (86.227) believes some dogs instinctively hunt, but that the young dogs learn it by imitating their elders.

2. *Activities showing a fixed habit* have been of interest to children. We cannot examine all of them but the *opening of doors* is one which has been especially impressed. Lloyd Morgan (71.144) makes the observation that his dog opens a gate

in the same manner every time he does it, thus calling attention to uniformity of action by means of that and other activities, after he once finds a means whereby the activity can be done. He says: "In lifting the latch of the garden gate he always did it in the way he accidently discovered it could be done." Hobhouse, in Evolution of Mind, contends that attention is necessary to this learning process. This uniformity of acts, seems to have been observed by many of the children, as will be seen.

B., 9. He scratches at the door until we let him in. B., 9. He can knock his tail against the door when it wants to come in. B., 9. When he wants to get out he sticks his nose in the crack of the door and opens it. G., 11. When he wants in a room he will scratch on the door with his foot. G., 12. When he was hungry he knocked at the door. G., 12. When he is out in the yard and wants to get in he stands up and takes one of his paws, lifts the latch, and walks in. G., 13. He can open any door if it is not locked. G., 13. When he wanted to get out into the yard he would go to the back door, and cry to get out, and stand on his hind legs. G., 13. When he is at the seashore and wants to come in the yard and the gate is latched, he stands up and supports himself on the stationary part of the fence, and with the other paw he pulls the latch open. B., 14. When Frank was shut up in the barn he would push a box up to the door, lift the hook with his nose, and secure his liberty. G., 17. He would stand on his hind feet, and with the front feet rattle the door knob to go out or in.

Monteith (70) observes that Toots, his dog, opens a door by drawing himself back to give himself sufficient momentum. "He learned it by opening a screen door in which his tail would be pinched unless he went out with enough speed."

3. How much we make use of our own meridian is seen by the *anthropomorphic element* in dog activities, which forms a special interest. Brehm (10.210) notes that the dog can dance, drum, walk a rope, mount guard, take and defend fortresses, shoot off pistols, turn the spits, take his master's slippers, take his hat off, bring the slippers, and even attempt to take his shoes off. Things similar to this, and with some greater variety are of special interest to children, and receive very frequent mention. The interest is high with both boys and girls, 46½ per cent. of each sex mentioning these traits at age of nine, then rising rapidly and steadily until at 14 with boys it reaches its maximum of 80½%, and at 15 its maximum with girls being 85%. For convenience in examining them, three divisions have been made.

a. Acrobatic. B., 7. Stood on the top of a broom. G., 9. Jumps over a stick three feet high, and jumps through your arms when you would hold them like a ring. G., 10. It will roll over or lie down at command. B., 10. When I say "up," it will stand on its hind feet. B., 10. He could walk on hind feet, turn summersaults, and balance a lump of sugar on his nose. G., 11. Jump through a hoop when you roll it. G., 11. He would jump over the chair, lick my hand, and

walk the ladder. G., 11. Stand on hind legs and dance. B., 11. He could throw a piece of cake in the air and catch it on his nose. G., 12. He folds arms to jump over the candlestick. G., 12. When I say walk, he gets up and walks around on his hind legs. B., 12. Taught him to ride "piggy back." B., 13. He would climb a ladder. B., 13. He could jump over a stick three feet high, land on his hind feet and walk. B., 13. He would jump forward and backward over a rope. G.,—. Taught him to ride a horse. B., 12. He will toss a ball or a book on his nose.

Francis Darwin (28.92) says of his father, in relation to Polly: "My father used to make her catch biscuits off her nose, and had an affectionate and mock-solemn way of explaining to her beforehand that she must 'be a very good girl.'" Morgan (71.147) had his dog catch and find a ball. Groos (41.115) notices a striking case of this order.

b. Muscular anthropomorphisms. G., 9. Can sit up for his dinner and do tricks. B., 9. If you say 'charge' he will lie down; 'jump,' he would jump. B., 9. Can get a stick out of the woodpile if I tell him to. G., 10. Taught him to push doll coach, stand up in a corner and beg. B., 10. When he gets up in the morning he always washes himself. G., 11. He can sit up and bark for 'Princeton.' G., 11. Seeing the girls sprinkle clothes he got up and sprinkled the floor. G., 12. He cannot do any tricks but rides on my sled with me, and lets me pull him. G., 11. He can walk, speak for his meals, put out a match, and jump. B., 12. I have taught her to sit up with a basket on her arm, to pretend she is a dead dog, and to walk on her hind legs. B., 13. Taught many tricks. Told her to sit in a chair, which she did until I allowed her freedom. Would have her jump over objects, having trained her by having her catch a ball which I threw. G., 13. His cutest thing is wiping his nose with his front paw. G., 13. If I sit in a chair he will get up back of me and push me off. B., 14. It would sneeze when you told it to. G., 14. Used to rock my little sister to sleep.

c. More purely psychic in appearance. G., 9. Jumps up on my lap and puts her head on my shoulder and cries. G., 10. He will creep like a baby, roll over, and say his prayers. B., 10. Brightest thing was to greet me when I came home from school. B., 12. He would sit in the attitude of prayer until we would say 'Amen,' when he would get down. B., 12. The brightest thing he does is to try to play the organ. G., 13. It plays music with its two paws. G., 13. When I would enter the house he would sit on his hind legs and extend his paw to me to shake hands. B., 14. He sits up in a chair with glasses on his eyes, and a book in his paws. G., 14. If I take him up in my arms and tell him to kiss me, he will lick all over my face. B., 15. If I would tell him to cry he would sit on his haunches, put his forepaws up to his face and begin to cry. G., 15. He will play 'dead dog,' say his prayers, smoke a pipe, play fire department, play old woman. G., 15. He would show how people went to church and said their prayers. G., 16. When we would go away he would always shake hands with us. When we came home he was standing at the gate ready to shake hands again G.,—. Could say his prayers. He would lean his head down on the top of the chair and keep it there while I said: 'Cats, dogs, peanuts, candy, ice cream, cake, a big dog, Amen.' B., 12. He begged by sitting up on his hind legs and moving his front ones. B., 12. He would help blow out the light at night. G., 14. When you tell him to play the fiddle he will scratch his side.

It will be seen that in these enumerations are found the programmes into which show dogs are usually trained, and which receive so much applause from spectators. It represents the efforts to train dogs, that the feeling to have things act like ourselves, may be gratified. It represents standards which too frequently are set up to mark the intelligence of the animal kingdom generally, and the means of grading in school and in the world. This is the nature of the training which Charles Dudley Warner (99) had in mind when he said that a dog had a hard time because he must develop as a dog and as a human being. But in this interest it may be that some hint at domestication may be found. In all the activities of the dog, marked regularity is observed and impressed upon the child and adult alike, that aside from the effort made in fixing these acts into the dog organism the child is here impressed with the power and economy of habit, or of various organizations of habits. If he should fail to observe it, this pet affords a golden opportunity for the parent and the teacher to impress the force, either for right or wrong, of the dominion of habits.

PART C. ECONOMIC AND SOCIOLOGIC RELATIONS WITH THE DOG.

We have thus far considered how the dog ranks with other pets in children's interests; the psychology of ownership and names as here in evidence; the interest seen in the physical well being of the pet, and what is perhaps the secret of the whole dog interest,—the character and type of mind and activities which children and others have seen in him, and by which he has made himself the friend and ally of man. Our final consideration will be his dynamic relation, as he touches and reacts upon the child and the race, and *vice versa*, playing an important rôle in the civilization of the race, and in the development and harmonizing elements of the child.

I. The pet *dog's most common animal companion* to-day, and for many centuries, has been the cat. This animal relationship has interested the child and the race. It has been observed to vary from sheer indifference and strong friendships on the one hand, to permanent feuds on the other. The children say:—

B., 14. He likes to fight cats, but does not fight dogs. G., 14. He had one bad fault, and that was to chase cats. If he caught them he very often killed them. G., —. Used to carry our cat's little kittens around the cellar in its mouth. G., 10. When I would say "Cats, Beauty" she would run, open the door, and jump up on the back to see if the cats were really there. B., 13. Found him asleep with the little kitten resting its head on his side.

The puppyhood of Monteith's dog (70) was passed in company with a gray kitten, "whom he treated with respect and

affection, never failing to impress a kiss on its nose when morning came, or after a temporary separation." Darwin (27.103) and others have noticed that dogs frequently care very tenderly for motherless or stray kittens, or for sick kittens, licking them, which is "the secret sign of kind feeling in a dog." Lindsay discusses it (63.II.387). On the other hand, many dogs do not get along well with cats. Cornish (23.166) believes, owing to an inherited dislike from the destruction of the whelps of some of the large felidæ by wild dogs. Hutchinson (52) notices what is in most cases true, that strange cats are intolerable, but when a cat and a dog grow up together their relations will be intimate. Pepys gives this observation space in his diary. Mr. Wm. Watson's epitaph for a dog was:

> "His friends he loved. His fellest earthly foes,
> Cats, I believe, he did but feign to hate."

II. Dogs are sometimes *recognized to be great fighters.* At the dawn of adolescence this trait seems to be more especially noticed. The pleasure arises in seeing the dog win a hard fought battle. Many take it as a matter of course that dogs will fight, others offer an apology in suggesting a mitigating circumstance. The bulldog is an acknowledged fighter. Girls are much less frequent in observing this characteristic, perhaps because of less interest in it, and because they are not where the encounters take place. Chivalry is usually observed in this connection.

G., 11. Sometimes he fights when some big dog fights with him. G., 12. It would fight, but it was never cross. G., 13. He could whip almost any dog around the neighborhood. B., 14. He fights like a bulldog. He licked two bigger dogs the day before he died. B., 15. He never fights unless another dog fights it first. B., 15. He must have fought before I got him, but he has never been seen to fight since. G., 15. He would not fight with dogs smaller than himself. G., 15. Other dogs pitched on to him, so he took his own part, as one would expect of a bull-dog. G., 15. The little dog and the mother were together. The little dog was very saucy. B., 16. My dog would fight any dog that would try to fight him.

Some writers describe their dogs as great fighters. The bulldog's history is known. Brehm (10) refers to the fact that Alexander made his dogs fight with the lion, then with an elephant, and he killed both. Hudson (51.336) says that dogs in the cattle raising districts of South America are fierce. "The fights are usually between dogs that are well matched. When one fighter is gone the next best takes his place. From the foremost in strength and power, down to the weakest, there is gradation of authority." He observes that the weakest are slaves to the others, and that they must give up their bone with good grace. As to chivalry, Woods Hutchinson son (52) observes that "no dog of size or courage will conde-

scend to attack a smaller or obviously weaker dog." He believes that little dogs are fighters, because they seem to realize this. He knew a great Dane that would simply hold smaller dogs down with his large paws. Marryot, in "Dog Fiend" makes the statement that no dog will bite a good master, even though the master's character is not the best (83). Lindsay (63.I.197) says what many believe, that a dog which is the playmate of a child appears to recognize its responsibility. He takes treatment from a child that he would not take from a man. The poet Cowper relates how his spaniel, "prettiest of his race," fetched him a water lily which he so much desired to have from the breast of Ouse (61). Generally, then, with some exceptions, there seems to be a feeling that a dog has a sense of dignity, a judgment as to fitness, a measure of his strength, and a desire to please, in relation to his own race, and to the child, and man.

III. These pets are not always *good*. Some are never *bad*, but most of them have days and times when they digress from what pleases, when there is a good reason. If no good reason can be recognized, he must be punished.

B., 9. It was a good dog, and will not do any objectionable thing. B., 10. He goes to Sunday School and lies under the seat. G., 11. Sometimes he is bad, but I only whip him a little. G., 12. Cannot say he is bad but when he gets hold of my gum shoes he tears them almost in pieces. B., 12. My dog gets so angry that he would tear my sister's dresses all up. He would bite everybody that came in the yard. B., 15. Sometimes he would catch young chickens, but would not eat them. He did it only for sport. G.,—. Bowler was never really bad except on one occasion. During the summer he had sore ears. One day I was playing near the door. Mother had just said: 'Be careful, do not pull Bowler's sore ears.' I did not heed mother's words, but went on climbing up his back by holding on to his ears. The poor dog endured the pain as long as he could, and suddenly snapped me, biting my upper lip. When the doctor came I was lying on the sofa near the window. The dog came and looked in the window, and gave a pitiful whine, and for several days went about with his head down, and his tail between his legs. I begged father not to kill him, as he threatened to do.

Bible references to the dog are characteristic of reproach. The Arabs and most Mohammedans so regard the dog (58). The Usbegs are insulted to be asked about either their wives or their dogs (58). Romanes and Lindsay observe that the dog is deceitful. With the English perhaps, the good qualities are most especially emphasized, and their companionship was desired even in the people's devotions at one time, it being their habit in one church to have a dog pew, and to inaugurate means of control. One of the queens was thus especially delighted to see the minister's dog sit beside him on the steps leading to the pulpit (18).

IV. *Interest in plays and games.*

G., 9. If I throw a stone it will run after it and bring it back to me. B., 9. He will chase stones and sticks. B., 9. It could swim in the creek. G., 10. Brightest thing was to get its head fastened in a tin can. G., 10. Carry off my shoes and stockings. B., 10. Likes to shake strings, old shoes, stockings, etc. G., 11. He can pull hair and tear dresses. B., 11. It likes to dive in the water where it is deep. B., 12. In the summer we go swimming and catch dogs. B., 12. He would ride me on his back.

The play life of the child has been shared with the dog, which, in many cases, seems to have been the ruling motive of the play. A child, seven or eight years of age, sitting on the curb recently, petting a happy looking bull terrier, exclaimed: "He is a bright dog, and plays hide and seek with us, just like a girl, and he can always find us." Hide and seek, "catcher," and ball are the three games chiefly played. "Dead dog" is mentioned, sometimes "games" only, but it will be seen that the dog and the child are both interested in the running games, with the exception of ball, which affords a compromise between the arm movements on the part of the child, and running for the dog. Of these games "hide and seek" is the most popular with both sexes, but the girls show almost double the interest of boys in it. The curve for girls reaches its maximum at 9 years of age when 33⅓% report their interest in this game, with a rapid decline until at 11, when at 22% it is nearly steady until the age of 15 years. Sixteen per cent. of the boys at nine, and 25% at 14, represent the greatest interest in this game. Catcher seems to be a good game at 8 years for both sexes, reported by 44% of the girls and 23% of the boys, but declines rapidly, never being higher than 16% at eleven with girls, and 12% at 13 with boys. Ball, at 10 years, falls as low as 4% with boys, and is maximum at 11 years, being but 14%. No mention is made of ball by any boy beyond the age of 15. Girls begin with the same interest, but rise gradually reaching 12% at 12 years. The dog is rarely used as a doll, although six young ladies in the reminiscent list speak of the pleasure they found in dressing the dog as a doll, and four other girls mention this means of amusement. It would seem that the chief interest in games is that of companionship, although one can see that the cheerful exercise in the open air has been of much value to the children.

B., 11. Would play he was a bear and have him catch me. G., 12. Hide and seek seems to be his favorite game. He certainly does act as if he understood the game perfectly. B., 12. We did not play with him much, for papa said we would spoil him. B., 13. I could play all day with her. I like her better than any boys. G., 16. When I was very small I would run and play with the dog in our yard. Then Gyp would run after me and grab hold of my dress and pull back as hard as she could. Then I would fall and sometimes cry, when Mamma

would scold Gyp. After that she would play as carefully with me, until I began to play rough. G., —. Used to dress him up in dresses belonging to our dolls, and would wheel him up and down in the carriage. M., —. I had no brother to play with and no neighbor boys I liked very well for playmates, so I used the dog for that purpose.

Upon urns it is not uncommon to see representations of Greek children in play with dogs. The beautiful "sluge" is the Arab's favorite, and that of his children. He is treated well by the boys. With the Battaks each boy has a particular dog as a "kaban," or companion, that is highly regarded, even when very old. The Patagonians adopt favorite dogs (58). We see, too, how in the case of children employing a dog for purposes of playing "horse," what has been serious business is a rudimentary organ with children. See elsewhere how the dog has been used economically. Galton (39.247) quotes Hearne as seeing the Indians go to the wolves, get out the young and play with them. He has seen them paint the faces of the young wolves with vermillion, or red ochre. A lullaby from the Rig Veda (47) shows the dog as a companion in the house.

Perhaps no one will ever know what these plays and games, and this companionship means either to the life of the child, or to the dog. The child has, in the dog, a real force, leading, instructing, exercising, and helping, in a manner that it is hoped our study may throw just a little light.

V. *Why the child and even man is attached to the dog* in so many strong bonds, must be concluded from the entire study. Here, we shall look at some facts and reasons that are presented in the words of the returns, and from the literature more directly expressed. Trolley cars in many places must stop for a dog, but no penalty is attached to cat killing in this way. The Wagondas, the Shilluks, the Arabs, the Battaks, and the Patagonians, set a high value on their dogs, chiefly for hunting and companionable purposes (58). A few children will sell dogs, but rarely does it occur that a money value is stipulated. The dog is too much a part of the child's life to enter the commercial phase of interest, so evident among Americans, at least. "In German University life each corps of students has its large canine, whose expenses are shared, and who is cared for week about. He goes with the students everywhere, on walks, or on smokings, billiards, and drinking Weissbier" (42). Æschylus elevates and enlarges the idea of divine companionship in the eagle, by calling it the "winged dog of Zeus" (22). The specific reasons mentioned for the dog companionships are:—

1 *His ministrations in solitude.* G., 11. Keeps me company and plays with me when I am lonesome. G., 11. Keeps me company when I have n't any one to play with. She is just like a sister. B., 12. When I must stay in the house and have nothing to do, he stays in the house

and plays with me. G., 12. When I am discouraged he makes me happy; when I am lonesome he keeps me company. B., 15. Did me much good. When all the rest of the family went away I would play with him. G., 13. It taught me how dogs know their owners and love them. He kept me from being lonely at home, and when going some where. G., —. When I was cross or angry I would play with him awhile until I got real happy and cheerful. G.,—. He helped to amuse me, kept me out of mischief, and was a great deal of company for me, as I had no brothers nor sisters. G.,—. She did me much good in that when I reached the age when I lost confidence in human beings, I carried all my joys and sorrows to her, and she was at one time, to my thinking, my only true friend. She not only sympathized with me, but she watched and cared for me. Once or twice, in my babyhood, I ran away from home. When I was found she was always close by my side. When I started to school, she insisted, for a long time, upon accompanying me.

Perhaps a single child in a home is unfortunate. The reaction of one upon the other stimulates, enervates, incites the best that is in each, but we see in the words of the children, how such a pet fills a niche in the child's life and affords a valuable substitute for another child. Small says, "Isolated people must have companionship," and in an excellent way has given us some idea of what pets have been to some people whose misfortune it was to be alone (91). Our returns supplement his list. The Bachelor's Dream, by Hood, shows how one in solitude finds himself not alone when he has his pets, to which to gossip, and to which to relate even his dreams, and call for response from his cat or his dog. Byron finds a comfort in his Boatswain, upon whose grave he pays the high tribute of "friend," saying:

> "I never knew but one—and here he lies."

Clarence Hawkes (44), the blind poet, says to his dog:—

> "And deem it joy to be alone with me:
> My dear old dog, unto creation's end
> Of all the world thou art my dearest friend."

And Ouida, the French novelist, has strongly given as a reason the words that would almost parallel those of one of our returns, and might afford a summary, somewhat strong, of the reason in saying why all men of genius or greatness are so fond of dogs: "They find the world full of parasites, toadies, liars, fawners, hypocrites; the incorruptible candor, loyalty, and honor of the dog are to such, like water in a barren place to the thirsty traveller."

2. *The feeling when separated* is a further evidence of genuine attachment.

G., 9. I was homesick to see it. G., 9. Felt lonely to be away from him. G., 11. Often wish I had the dog with me to give it some of the good things to eat which I have; and if I could only pat it when it is eating them. G., 15. Missed him more than I did some of my friends.

G., 13. When he goes away to the country I am very lonesome because I have no nice dog to play with, and I do nothing until he returns. G., 17. Glad to see them when I returned, but did not miss them when I was away. G., 16. When I was separated from him I always felt lonesome, and the first thing I did on coming home was to have a romp with him. B., 9. We miss each other's company and feel bad. We are happy when we meet again. B., 9. I am glad when I see him.

It is recognized that if a dog be kept from his master, it interferes with the former's disposition. The above confessions show a reciprocation. Upon monuments to women among the Greeks, Kurtz (57) observes that it is not uncommon to find a carving of her dog. Scott, on the death of Maida, staid home, declining an invitation that day (36). At Münich, Mary Louise was compelled to separate from a little dog of her affection. She shed tears over the separation. "She was then given her dog. It knew her step, and whined with impatience" (90). The Fuegeians, when hard pressed for want, kill their old women for food, rather than separate from their dogs in this way (25.199). Byron's will of 1811 directed that his own body should be buried in a vault in the garden near his faithful dog (49). It cannot be said in these feelings of attachment, shown by the unwillingness to be separated, that there is a norm suggested for pet relationships. It is rather to be supposed that we have the maximum of attachment, which might grade down to indifference, where feeling for any pet fades out entirely. This is shown in our returns, when here and there we find that no special discomfort appears from separation. The feeling may better be studied in

3. *Funerals and respect for the dead bodies.* Since the average life of a dog is perhaps ten years (Brehm says he reaches old age at 12 and dies at 20), it is reasonable to suppose that children would have experiences in witnessing the death, burial, or other unavoidable separations from their dog companions and friends. They, too, have experienced many unpleasant persecutions in common with our English dog friends and fanciers, through a few heartless individuals in relation to this "faithful" animal.

About forty-five per cent. of our children have undergone this unpleasant experience in some form. The order of frequency in the method has been as follows: Natural death; poisoned at hands of "canicides;" "killed," shot or chloroformed as result of hopeless disease; strayed away; given away for good reasons; killed either by trolley, steam car, wagon, or drowning; lost; stolen; and seven cases of hydrophobia, necessitating shooting.

In most cases of parting there was much grief and no little anxiety. They were frequently thought of with much tenderness, and when buried, as was always the case with those

which died, except in an instance or two where they were stuffed, an appropriate and tender funeral or burial solemnized the occasion, with little markers, monuments, and a frequent banquet to keep his remembrance fresh in the young hearts. The whole experience is always referred to in a touching manner, so much so that perhaps the real feeling is destroyed in many instances by our terse method of quoting the children's words.

B., 9. Will bury my dog in the yard and plant a tree near by it. B., 10. Buried in front yard where he has a tombstone. B., 11. On the stone where he is buried, is marked "Rover," died July 27, 1900. B., 11. Buried in the cemetery. Put a monument over him. B., 11. Buried on the hill between two large oak trees. G., 12. When he dies I shall make a coffin, line it with silk and lace, and put a pillow in, and a ribbon around its neck. B., 13. I dug a grave and had a funeral in our back yard. We hauled him in an express wagon, and when the funeral was over I came home and cried all afternoon. B., 14. I shall give a funeral oration when it dies. G., 15. Our Dick and five other dogs were pall-bearers at a dog funeral. Had a coffin, and they buried it near the cemetery. B., 17. We shall put him in the cold ground to await the judgment day. G., —. I mourned a long time for him. No other could take his place. G., 12. I trust he went to heaven. G., —. He was killed by the cars, but I could hear his cry for many months afterwards. G., 11. If it dies I will bury it in my pansy-bed in a little white coffin. B., 12. When she dies I want to bury her in the place that she liked most to be when she was alive, and that is in the woods, where the wind rustles through the trees, and the birds will sing her death song.

In this respect, we see no change in feeling to that which seems to have existed as far back as we are able to find any data. Sully (94.167) believes it is a trait of the uncultured man to love strong effect. He says: "The pathos of the death of a pet animal or of the child has to be made obvious and strongly effective, by a mass of painful detail." Perhaps these observations would lead one to cut out the qualifying word "uncultured," and to say that there is a desire on the part of people of all classes to make pathos obvious and effective by painful details. Bonny negroes, Bushmen, and North American Indians bury their favorite dogs or revere them in death (58). Families have shaved their heads in mourning at such times (36). Dog mummies of Egypt tell their own story (66). Xantippus and Theophrastus are exponents of an early Greek feeling and interest (57). Eve Simpson (88) has shown how this feeling and demonstration has held the Scottish mind for distinguished dogs. At the street-corner, near Greyfriar's churchyard is a granite fountain with an effigy of a dog on guard. It has the following self-explanatory inscription: "A tribute to the affectionate fidelity of Greyfriar's Bobby. In 1858 this faithful dog followed the remains of his master to Greyfriar's churchyard, and lingered near this spot until his

death, in 1872. With permission, erected by the Baronness Burdett Coutts" (88). Charles Kingsley's remains and those of his dogs, by plan, sleep only a few rods from each other, with Latin epitaphs suggestive of their strong attachment. Matthew Arnold, Wordsworth, Queen Victoria, Byron, the Duchess of York, Ouida, and Mrs. Ewing have been touched by these separations, and many of them have been inspired to write immortal tributes to deceased dogs. This same interest finds its expression in elaborate cemeteries for dogs, notably in London (49), Summer Palace, Pekin (11), near Tarrytown-on-Hudson, Paris, etc., for which large sums of money are appropriated by the dog lovers.

From these observations one is able to draw his own conclusions as to the love so generally shown pet dogs, and the manner in which some qualities, regarded as noble, have impressed themselves. N. U. Thomas says (97), "Burying a dead animal for other than sanitary reasons, seems to bear clear marks of totemism." Reinach, in formulating the principles of totemism, gives as the second one (77), the mourning of the accidental death of an animal, and burying it in the same manner as a member of a clan is buried. To say the least, it is an index of how the dog has affiliated himself with the race and the child, that there is an unwillingness to part or sever the tie, and the next best thing to his presence is provided, viz., the remembrance of the departure and his life and association, by a symbolic ceremony or marker. In the words of Herrick,—

> "This shall my love do, give thy sad death one
> Tear, that deserves of me a million."

4. *The belief in the dog's immortality* has been observed in the returns, and is another evidence of attachment. It is easy and natural that many who use funerals and monuments as means of expressing the emotions toward the dog, and who entertain the belief in the immortality of the soul, should think well enough of the dog to extend that belief that it may include him, as suggested in a few instances by the children. That this, too, is a very ancient belief, is evident. According to the Zend Avesta, says Langkavel, certain dogs have the power of protecting departed spirits in their perilous passage. The Koran refers to dog spirits (58). Luther asserts in his Table Talk that dogs, also, go to heaven. Klopstock's Messias has Elisama's dogs go to heaven. Plato, Plutarch (57), Locke, Des Cartes, Condillac (88), Bishop Butler (108), Robert L. Stevenson (13), and Leonard, are quoted as entertaining this belief. The triple-headed hound of hell, appearing in so much mythical literature, of course, was immortal. Southey, in his elegy on Phillis, asserts that his "is no

narrow creed." . . . "There is another world for all that live and move,"

> "Where the proud bipeds, who would fain confine
> Infinite goodness to the little bounds
> Of their own charity, may envy thee,"

and St. Hubert (36) always appeared in visions to their devout worshippers, accompanied by hounds. In Staffordshire and North Devon, the sweeping hounds, or Dogs of Hell, were thought to be the souls of unbaptized babies (36). R. Buchanan in "The School Master's Story;" Matthew Arnold; Horsfield on "Old Rocket;" Sir Francis Doyle on The Fusilier's Dog; Mortimer Collins on Tory (49); Lamartine and De Quincey (50), refer to his immortality. Spectral dogs appear in parts of England and Wales. There is also a belief that the spirit of a favorite dog which has died returns to visit its master (30).

VI. *The love for the dog as shown by the children's words.* There is a legend in the Rig Veda, that after a glorious reign a monarch mounts to heaven. His dog, faithful to the end, accompanies him. The dog is refused entrance, and the king refuses to enter without him (47). This is typical of much of the genuine love for the dog, so generally expressed in our returns, and shown as follows:

G., 12. I love my dog because I have no brothers or sisters to play with. B., 12. Because he is very affectionate and jumps up and wags his tail whenever he sees me. B., 12. Could stick my fingers in his eyes and pull his tail. He would allow no one else to do that. B., 12. He would follow me everywhere I went. B., 12. Because he is nice. B., 12. Because you can play and go hunting with him. B., 12. It will take my part. B., 12. Because it is little. G., 13. Because he was a hero in saving a little girl four years old. B., 13. Because it jumps up on me. G., 15. He is very fond of me. G., 17. Because he could play and romp, and show pleasure at the sight of me. G., —. Because she was the only real constant companion I had, and she seemed like another child. G., —. Because he belonged to my dead brother. G., —. He loved little children and would delight to play with them. G., 13. He is so true and faithful. B., 14. Love it as any person loves his relations. He would come on the sofa and lie down with me, and curl up close and lick my hands, as if he were never to see me again.

The dog's affection, his patient companionship in play, his guardianship, his heroic deeds, and his plasticity, are here mentioned as his winning qualities. The entire history of his domestication is necessary to see how he has generally won his way to become a member of the human family, however. Langkavel (58) ably summarizes his relation to the savage tribes, and shows how many practical functions he has performed. They may be grouped under a classification admitted

by our questionnaire material into economic, care of the sick, guardian in periods of danger, and as a hero. To plot these relations noted by our papers, the curve gradually rises with the age of the children, making a rapid upward shoot in early adolescence.

a. There is much *interest in the economic* value of the pet. With many this is his reason for being, and the interest here seems to steadily increase. It is various and expressed as follows:

"Draws you around on sleds;" "carry packages from the store;" "carries mail;" "brings wood;" "brings the cow;" "takes bucket to milk man;" "chases pigs;" "brings the paper;" "drive the horses and cows to the field;" "rock the baby's cradle;" "guarded the house and chased thieves;" "churns for grandma;" "carries the lantern for papa." B., 11. The only good thing he ever did was to knock a peddler over one day as he was coming into the house.

These duties of watching sheep, running errands, guarding flower beds, etc., show an interest persisting really beyond the period of absolute need, but which were at one time basic in civilizing the race by aiding in man's struggle, and affording him leisure to devote to higher pursuits, or more greatly organized labor. What was once serious business, and a reason for domestication, is seen yet to have much of interest for the child. The first use with prehistoric man to which the dog was perhaps put, is believed to be that of food. Mutilated dog bones and skulls throw some light upon the point. He gradually arose to be of service to man in the hunt, and by an easy step to sheep guarding. Chinese women of Java use the dog as a wet nurse (58); the North American Indians as a beast of burden; and until recently people of the British Isle as turnspits (24). They are used in the carts of fruit vender women, wash women, and baggage delivery in Berlin; for Belgian crockery carts; Brussels milk carts; Italian organs; cat's meat barrows; crippled beggars and costermonger's carts (104). Their use as draft animals was in the middle of the last century prohibited in England (24), first in London, 1839, all over the kingdom, 1854 (87). Their excrement is used as pharmaceutic gentian for tanning, by people of Western Asia. Great cargoes come from Constantinople to the United States for the tanning of morocco. The Tlinkits throw the bodies into the sea. After a time they become covered with dentalia and are then withdrawn (58). In Manchuria and Mongolia a young woman's wedding portion consists of so many dogs as a nucleus of a dog farm. They are valued for their fur, and for the gloves and boas made of their skin (24). Some of the French use them for smuggling.

b. *With the sick.* In parts of America there is a belief that

if a dog licks a sore it will afford of itself a remedy. The story of Lazarus at the gate of Dives will here be recalled. Weir (101.220) asserts that dogs have a knowledge of medicine. His value in the sick room is variously expressed.

G., 11. When I was sick he made me feel better. B., 12. He did me good by licking a scratch, then it got better. B., 12. Always did me good when anything went wrong. G., 14. When I was sick he would lie in a chair beside me. B., 14. When some one gets sick and is in bed, it sits on the bed all the time. G., 11. When I am sick he pities me, lies near me, and kisses me all the time. G., 12. He pities you when you get hurt, for he licks your hand. G., 13. After having him about a week I was taken to the hospital for an operation. Two weeks from that time my parents and sister came to the hospital to see me. Learning that they had the dog in the carriage, I wanted to see him, which request was granted. As soon as he came in the door he saw me, and fairly bounded out of my sister's arms on to the bed. He whined and jumped around the bed, licking me every place he could get hold of me, and when they took him away he whined and tried to get back on the bed. G., —. When my father was very ill with typhoid fever, it wanted to go up in his room. I know one time it fairly cried to go up. G., —. I sprained my ankle once and he never left my side only to sleep and eat.

The ministrations seem to be a relief from solitude, with the feeling that the dog extends his sympathy. Dogs are trained for certain kinds of hospital work (33). Mrs. Browning was inspired to verse by the ministrations of her dog Flush when she was ill. Dr. Brown traces Rab (13) through the series of hospital experience of his mistress, and reports him as a witness of and sympathizer with all her sufferings. Bullseye, of Dickens, is made to care for Sikes, hurt in a burglary. It may be that this interest, and this supposed power, mysterious as it may have seemed, brought about the custom of the Western Himalayas and the Breadalbone, who intoxicated a dog, fed him sweetmeats, and after other ceremonies killed him with sticks and stones as a safeguard against disease and misfortune, or that induced the Iroquois to sacrifice a white dog on New Year's day for a similar purpose (37.194).

c. As guardian the dog has won his reputation. Those charged with responsibility, or otherwise afraid under various conditions, frequently feel safe in the presence of an able dog friend. St. Bernards, bulldogs, mastiffs, have guarded their master's wealth. The dog's sagacity, discrimination, faithfulness, and power, make him an animal which those not of his pack are driven to respect.

B., 9. If any one would come around at night he would take a leg off of him. B., 9. He always takes my part. G., 9. Boys would be afraid to touch me. G., 11. He protects me, makes me happy, and watches the house. G., 11. Is my bodyguard when I go out alone at night. B., 11. He always kept other boys from fighting me. G., 17. If any one strikes me he barks and jumps at them. G., —. He taught me the lesson of faithfulness. G., —. Kept me from going too near a

snake by jumping in front of me and biting the snake just as I was about to step on it.

Dr. Stables (93) was interested in a dog which guarded a sleeping child, and gave the alarm when the child awoke. Policemen of some cities, the armies of France, Germany, and Russia, use him for outpost duty. This guarding quality has its traces in myth fiction and poetry. The Eskimo placed him in the graves of young children who could not find the way alone to the spirit land (58). In Borneo it is believed that the dog's creation by God was for the purpose of guarding the serpent who betrays man. Dyer (30) thinks the death omen in howling has a kindred meaning in Aryan mythology. Saramâ, the dog of the Aryan god, is his faithful guide (7). In some places the dog is buried alive under the corner stone of a church, that his ghost might guard it against profanity (30). Virgil's Æneid (Bk. VIII. 462) gives a recognition to watch-dogs. The dog is regarded by others as a guardian spirit, as in the Icelandic idea of "Aettarflygia" belonging to each family dwelling, as well as an individual guardian spirit. Sometimes it is an animal most appropriate to the temper of the owner (97). This is almost, if not entirely, the sense in which Reinach (77) defines "totem"—"a class of objects considered as a guardian in the larger sense. Animal totems are for the protection of members of the totemic clan. They announce the future to their friends, and serve as guides." Thomas names the totemic attitude toward dogs in parts of France.

d. The *heroism* of dogs either in belief or fact, has inspired the race almost generally, and has produced organizations. The fame of the St. Bernard is wide. Longfellow's Excelsior closes with a beautiful tribute to this species. Some of the children feel this trait rather keenly, as their words show. The younger children are not so much interested. Perhaps the first to mention it is eleven years old. In brief the expressions are :

"He jumped into the river and pulled me out;" "dragged the child out of the water while others ran to the house for help;" "scratched to tell us gas was escaping;" "took me home when I was lost;" "barked when my brother met with an accident;" "held me down with his paws on my shoulders, for had I attempted to get up I would have been hurt;" "notified us of a fire in the kitchen;" "puts out a fire;" "rescued a boy when the boat capsized;" "saved my life by rescuing me at Asbury Park."

Col. Hamilton Smith was impressed by a spaniel's plunging "into a roaring sluice to save a little cur" (75). Others, by the stopping of runaways by grabbing bridle or line (107, 1, and 19). Rover's heroism at a fire inspires Tennyson's "Old Rover." The saving of a child and the rescuing of its doll, produces Robert Browning's "Tray." The abandoning of

sport to save a struggling friend, has given us Wordsworth's beautiful story of Little Music. It may never be known how far reaching upon the race or the child, this influence has been in presenting a model of courage, devotion, and altruism.

2. *Interest in the dog's attachment to man* culminates in such a piece of work as the artist Landseer's The Shepherd's Chief-mourner, or in Scott's poem, "Fidelity," or in Charles Reade's figure, "Only a man, and yet as faithful as a dog." Cuvier believes it to be the dog's instinct, due to his cyno-morphic attitude toward his human friend (81). The child's faith in this attachment is strong.

G., 13. When I am away she will hunt for me everywhere, and whine if they show her any of my clothes. B., 13. When all went out he would bark and cry. B., 13. It never wanted to be left alone. When we left it alone it would go around the house crying and looking out of the windows. G., 13. Poor little thing was so homesick that he did not touch food for a day. G., 16. He died because mamma, for whom he had so much love, was taken to the hospital for an operation. G., 12. When I went anywhere that it was impossible to take him, he would lie outside of my bedroom door and await my return. B., 12. When I went to the country to stay a week I got a letter from mamma telling me I would have to come home, because Prince would not eat. I went the next day. Prince was all right after that. B., 12. It howls all night when I am away. G., 10. When I am away from home Prince does not romp and play about, but lies down on the rug before the door. G., 10. He would cry like a baby when I was away. G., 12. He came back to our house and rang the bell, then barked, as if to say he could not stay away. B., 13. When I was away for about a week, I was told he went into my study room and lay down at the chair I use. G., 13. When my mother died he felt so homesick for her that he got sick and would not eat. We had to take him to the hospital.

A dog which followed his master up the platform where he was to be executed, was pinned with the bayonet of the gendarmes. The sight was too much for those who were willing even to be the witnesses of the Christians who were being murdered (90). A starving dog upon the grave of his master, produced the poem on "True Love" by Sir Roger, in the reign of Henry VI. The psychologists have been interested in explaining this phenomena. Romanes (86.184) observes that it exists between, for instance, a lion and a dog. One writer (110) believes it is the dog's deepest instinct, and Robinson (82) believes it is the result of mutual dependence. Sully (95) fears that the dogs' recent relation to man will stamp it out, since appearance is valued more highly in a dog than his psychic worth, saying: "As the dog grows more generally amiable, he will grow less partial, and so be incapable of a heart-absorbing attachment."

With few exceptions the children are extremely interested

in the demonstrations of their pets on their *home coming*. How he proves his attachment in this experience is indelibly impressed.

G., 7. "Happy;" B., 9. "sits up in window;" "runs to meet;" "jumps up and tries to bite my fingers;" G., 9. "runs around the house several times;" G., 10. "wags its tail, jumps upon me, and barks;" "kisses my hand;" G., 11. "kisses me on the face;" "climbs up on my back;" G., 12. "wags its tail, jumps up on the table and dances;" G., 13. "almost tears me to pieces;" G., 15. "jumps and barks, and if I do not pay attention he will catch hold of my skirt and shake it;" G., —. "just about train time would always start for the station and wait until my train came in, to see me;" B., 15. "dances hysterically at our feet." B., 14. A long time after our dog was given away, on going by where he was he heard us and came frisking out to us. G., —. When I was away and returned he would wag his tail and show his teeth, proving that he was delighted to see me.

Darwin's Polly (28.92) was demonstrative at such times. He noticed the packing to go away, and the excitement in preparing for the reception. Mrs. Browning (36) had lost poor Flush, "and when he came home he began to cry. His heart was full, like my own."

VII. *Training*. The responsibility for the conduct of the dog, the desire to make him an agreeable element of society and home, the pleasure arising from his ability to do "intelligent" acts, and the use that can be made of him in various ways through training, are strong motives inducing the children to interest in his intellectual and moral development. Aside from the children who derived their development through experience, and the efforts of their parents, there is little doubt that the dog was the next to be trained. Langkavel feels that, to some extent, the development of the race must depend upon efforts to train animals. He says: "As the dog is the oldest domesticated animal, so the peoples that extend their training to no other animals probably from natural incapacity for progress, remain at the lowest and oldest stage of the development of man. In other words, they appear as primitive races." He quotes Waitz as mentioning a dance in which adults introduce dogs to teach boys to acquire control over them. The writer has been told by Prof. O. H. Bakeless, who has had ten or more years' experience with the Indians as academic superintendent of the Carlisle Industrial School, that these young people show unusual influence with wild animal life of the kinds with which they meet. The Kamchatkans are recognized masters in training (58).

The curve of recognition of the dog's ability to perform "stunts," and the interest in training him to perform them, beginning at the age of eight and continuing to that of sixteen, runs thus: Boys—41, 44, 44, 61, 70, 70, 81, 74, 65 per cent. respectively; girls—59, 44, 59, 56, 68, 86, 82, 90, 61 per cent.

B., 7. Bit me once, and I gave it a whipping. G., 9. When it was bad I put it in the smoke house and made it stay there for one hour. G., 11. When we would shake our finger at him he would stop whatever he was doing and would look at us as if to say, "Have I done wrong?" B., 11. When it was bad I would say in a coarse voice, "Go, lie down, Dan." G., 11. When she was bad I put her to bed. G. 12. When about to be punished he sat up and winked his eyes very hard until the tears ran down his face. When he did this he usually escaped punishment. B., 12. Do not give it any dinner when it is bad. G., 12. When she is bad I point my finger at her and say, 'Are n't you ashamed of yourself?' and she will hang her head and look so sorrowful and ashamed. G., 13. When the dog does anything naughty I tell him to go lie down. He goes in his bed and does not come out until I tell him to, then he comes out and looks around with his tail down, and no doubt he feels very sorry. B., 15. I do not whip him, because if I would it would make him worse. G., 16. If I should scold her she would hang her head and go under the table, waiting for some one to pity her. Then she would come out and rub her nose against my chair, or put her nose in my lap. B., 17. He has such an innocent look that I do not have the nerve to touch him. G., —. When I spoke kindly to it, it would immediately lift its head, and rush to me, and kiss me all over. G., 17. Would try to train her not to catch birds, but could not. She seemed to say, 'I know it is wrong, but I can't help it.' G., —. Used to think my dog was wicked and would beat him, but before I got half through I would cease, to hug and kiss him.

The strong anthropomorphic attitude is here evident, yet with much keen insight into dog nature. Doubtless there is some imitation from the recollections of parent and child, but some of the primitive peoples have adopted similar means. The Greenland dogs are broken of obstinacy by being beaten with a whip made of lashes of walrus hide. On Hudson Strait and King Williams Land, snowballs and sticks are hurled at the dogs to direct them (58). It is a matter of interest to observe that the children, in a manner, recognize the principles of good animal training, *viz.*, gradation of stimuli, persistence, reward, regularity, a single master, kindness, clear understanding, knowledge of instincts, sequence of habits, and mastery, resulting only in a metamorphosis of instincts, when proper time is observed in training. These principles, learned through the process of training, should be of permanent value to the trainers in equipping themselves for the ultimate environment in which they may find themselves, either in the home or as teachers of the youth. If, in addition to this, it can be impressed that in the training of pets the same traits of character are demanded on the part of the child, as Bostock (9) enumerates as essential in wild animal training, this interest alone is worth all that has ever been spent in time and care upon pets. These essentials are unconscious physical courage, good personal habits, personality, patience, nerve, and physical agility in reserve.

VIII. *The influence of the dog.* There is a relation between

the number of domesticated animals and the grade of civilization. The use of any new thing by man has been an uplift to him. Environment has materially developed him if he has been interested. No one can recount what the dog has done in the life of the race nor the child, to give the type of mind we see to-day. The children's testimony here is striking.

G., 9. I learned to be a good girl from him. G., 10. It taught me how polite animals are to the other creatures around them. G., 10. She taught me to be kind to all dumb animals. G., 10. It does me much good. Gave me a pleasant face, and made me gentle and kind. B., 10. Taught me to be playful with other dogs. G., 12. He made me love animals because he was so kind to me. G., 12. Perhaps no one can tell the good these little animals do. They show you how cruel it is to maltreat any animal, and that all of God's creatures appreciate any kindness shown them. B., 12. He taught me to love the animals. G., 12. He exercises our patience and teaches us to be good to dumb animals. G., 12. He was kind and gentle, and he taught us to be the same. G., 12. He has taught me to show thanks for what I get, just as he is thankful for what we give him. B., 14. He made me a better boy in the house. G., 14. Taught me patience. G., 14. Learned that animals have feelings, as well as human beings have. B., 15. I have learned to like all kinds of animals. G., 13. Pets will make any one gentle, and he cannot help liking them. G., 16. He did me some good by teaching me how to run. B., 17. He has taught me many things about rabbits. G., —. Did me good by setting me a good example. He got everything he wanted and was liked by everybody because he was so good-natured. G., —. He incited in me a love for all animals, and made me feel in sympathy with them. G., —. I think I have always felt better toward people than if I had not had her to teach me. G., —. By owning a pet I was impressed with the love animals have, and that they should not be treated like senseless objects. G., —. Felt impelled to be like him in cheerfulness, obedience, and good nature. I had a little fear that he should look down on me, for he was such a noble fellow. He was so polite; he never took a thing until it was given to him, nor whined when told he could not have it, that he was really my ideal which I tried hard to follow.

This pet, then, has taught the children goodness, politeness, sympathy, cheerfulness, companionableness, appreciation, patience, gentleness, cleanliness, the reward for good nature, interest in and knowledge of all animal life, and the exalted position of all animal nature. It has made them more interested in their fellows and humanity, and has furnished the ideals of life. If these have been the conscious forces reacting upon life, to measure the unconscious must be left for after consideration. Langkavel says, "If this dog (Eskimo) becomes extinct, the Greenlander would perish just as the prairie Indian after the death of the last buffalo." In the Veridad, the oldest of the Zend-Avesta, it is said, "The world is maintained by the intelligence of the dog." Brehm—"We cannot conceive of savage man without the dog." Langkavel—"The dog is a part of man himself." Cuvier—"The most remarkable, complete, and useful acquisition which man has

ever made." (See 58.) What has been the influence of such a story as that of Gelert, common with so many peoples, of the fidelity of the dog in guarding the child from the attack of an enemy, calling out the best efforts of the pen to enrich the literature? Sully (95) is right when he says the world will be poorer without such a story. When Napoleon saw a dog pitifully mourning over the death of his master, he called the attention of the generals to the animal, and said: "Voyez, messieurs, ce chien nous donne un leçon d'humanite" (89). Kingsley gives Bran a prominent place in Hypatia. He makes Raphael say to Hypatia: "I took her, my dog, for my teacher, and obeyed her, for she was wiser than I, and she led me back, the poor dumb beast, like a God-sent, and God-obeying angel, to human nature, to mercy, to self sacrifice, to belief, to worship, to pure and wedded love." The dog seems frequently to have been an example to human lives. Evans (p. 118) refers to the fact that the Dacota Indians eat the liver of the dog that they might acquire the fleetness, the courage, and the hunting sagacity of this animal. The ancient Egyptians worshipped a dog-headed god (36). In early times there was a tradition in Nicobar, Portugal, and now in the island of Hainan, Khirgises, Ainos, Chuchacas, Kodiaks, and Chippeways, that they are of dog origin (58), which, according to Reinach, and others, is a mark of totemism, and Jevons (55) says that "man did not get beyond totemism where there were no animals admitting of domestication," and that "totemism is a stage in the evolution of religion." Frazer (38) suggests that the desire to become like an animal in quality is also a characteristic of totemism. If these conceptions and facts may be relied upon, —although concerning totemism there is much difference of opinion,—it would seem that the dog has been a totem animal and that the relation which he sustains to some children, is totemic in character. It could further be concluded, as has been observed, that the dog, as an animal under domestication, has served as a natural means of evolving religion from earth to heaven. The dog himself has been considered by Burns (107), Bacon (90), and others, to be religious in his devotion, fidelity, and obedience to his master. Cowper says of Beau:

"But chief myself I will enjoin
Awake at duty's call,
And show a love as prompt as thine,
To him who gives me all."

Summary and Conclusions.

1. The dog has been, and is, a great force in the development and natural education of the child and the race.
2. All indications seem to show that his first relation to

man was that of an economic assistant in life's struggle, and that his qualities made him companionable to children and adults alike.

3. The child recognizes in the dog qualities superior to his own, and regards him as a member of a common family with himself. This tie has in it a strong element of mutual dependence.

4. There seems to be a common relation between the history of domestication, the popularity of pets, and their ability to learn man's desires.

5. Scent is recognized as his keenest sense, memory his most remarkable faculty, in both of which he is regarded as superior to man; and fidelity the most striking principle of his life.

6. The attachment of many children to their dog, and the regard in which he is held by them, has traces of a similar relation to that between many primitive races and their respective totem animals.

7. The scope of his intellectual power; his breadth of feeling and devotion; his unusual patience with children; his economic and sporting propensities, which have the faculty of leading human beings back to their commonplace activities, so deeply rooted in the human race, make him more and more popular with years.

8. For a playfellow to an only child, he fills almost an indispensable relation, if the child is to repeat the race history; and his absence from a family of children is an irreparable loss, from present modes of life.

9. Solitude, which always craves some relationships, loses its gloom in many cases in company with a dog.

10. The number and shape of the bones, the number and form of his toes, the composition of his body, as to whether his teeth are carnivorous or herbivorous, the character of his skeleton etc., have not once been mentioned by any child, although many books on nature study have emphasized these points especially.

11. The whole interest is in life, and when death interests are indicated, whatever has been done, is in *memory of his life.*

12. A dog book, touching the characteristics which this study has shown as appealing especially to them, would supply an excellent means of supplementary reading for the schools which these children attend.

13. A good point of attack for the proper study of hygiene, would be an interest in dog hygiene by the public schools.

14. The dogs of various tribes and peoples, would afford an excellent basis of luminous stories, giving pictures of the life and habits of these races, desirable as supplementary reading in the schools.

15. It is reasonable to believe that she who has had successful experience in training a pet dog, would better understand child life and be more successful in teaching the child, than one who has not had such experience.

16. Where the interest warrants the dog affords an excellent subject for problems of biologic and psychic study in observing and making records of the functioning of sight, hearing, physical maturity, food effects, etc., thus introducing and developing an interest in a first hand study of all animal nature.

17. A genuine interest in a pet like the dog, develops a humane spirit, and creates a safeguard against many criminal offences.

Bibliography.

1. Alix E. Lèsprit de nos bêtes. Paris, 1890.
2. Allen, Grant. The dog's universe. Gent. Mag., '80.
3. Baker, F. C. Effect of Music on Caged Animals. Am. Nat., '97.
4. Bamberger, Herz. Das Tier in der Philos. Schopenhauer's, '97.
5. Bannister, H. M. The Esquimaux dog. Am. Nat., '70.
6. Bardeen, F. L. Intelligence of dogs. Knowledge, '82.
7. Barth, A. The Religions of India. Boston, '82.
8. Bolton, H. C. The language used in talking to domestic animals. American Anthropologist, '97.
9. Bostock, Frank. The training of wild animals. N. Y., 1903.
10. Brehm, A. E. Brehm's Life of Animals. Mammalia, Chicago, 95.
11. Bolton Sarah K. Our devoted friend, the dog. Boston, '02.
12. Bland, Mrs. E. N. A book of dogs. N. Y., '98.
13. Brown, Dr. John. Rab and his friends. Boston, '93.
14. Buechner. Liebe and Liebesleben in der Thierwelt.
15. Burgin and Jessop. The Queen's Animals. The Idler, '93.
16. Chambers' Journal, V. 30; (No. 17)—V. 48; (No. 18)—V. 62; (No. 19—V. 64; (No. 20)—V. 78.
21. Chambers, W. Mad dogs. Cham. Jour., '74.
22. Clerke, A. M. The dog in Homer. Brit. Quar. Rev., '83.
23. Cornish, C. J. Animals of to-day. London, '98.
24. Cumming, C. F. Professions for dogs. Living Age, '88.
25. Darwin, Chas. Domesticated Animals. N. Y.,'84; (No. 26)—Expression of Emotions, '73; (No. 27)—Descent of Man, '78.
28. Darwin, Francis. Life and Letters of Chas. Darwin. N. Y., 1901.
29. De Courmelles, Foveau. Les facultés mentales des animaux. Paris, '90.
30. Dyer, T. F. T. The dog and its folklore. Gent. Mag., '80.
31. Evans, E. P. Evolutional ethics and animal psychology. New York, '98.
32. Fawcett, Waldon. Pets in official life. St. Nicholas, 1903.
33. Foster, Maximilian. Dogs of War. Idler, 1902.
34. Fèrè, Ch. The pathology of emotions. London, '99.
35. Ferrero, Wm. Crime among animals. Forum, '95.
36. Finch, Barbara Clay. Dogs. Gent. Mag., '95.
37. Frazer, J. G. The golden bough, London, '90; (No. 38)—The origin of totemism. Fort. Rev., '99.
39. Galton, F. Inquiries into human faculty. London, '83.
40. Gibbons, Daniel. Biog. of a famous dog. Wide Wd. Mag., '03.
41. Groos, Karl. The play of animals. N. Y., '98.

42. GUGGENBERGER, L. S. Dogs in Germany. Liv. Age, '87.
43. HACHET-SOUPLET. Examen psychologique des animaux. Paris, 1900.
44. HAWKES, CLARENCE. My dog. Outing, '96.
45. HENNING, CHAS. L. On the origin of religion. The Am. Anthropol., '98.
46. HOLDER, C. F. Pets in the sea. Outlook, '98.
47. HOPKINS, E. W. The dog in the Rig Veda. Am. Jour. of Philology, '94.
48. HOUZEAU, J. C. Etudes sur les facultés mentales des animaux. Paris, '72.
49-50. HUDSON, J. Dogs in poetry. Westmin. Rev., '98.
51. HUDSON, W. H. The naturalist in La Plata. London, '95.
52. HUTCHINSON, WOODS. Animal chivalry. Contem. Rev., '99.
53. JESSE, EDW. Anecdotes of dogs. London, '46.
54. JESSE, GEO. R. History of the British dog, 2 V. London, '66.
55. JEVONS, F. B. The place of totemism in the evolution of religion. Folklore, '99.
56. KELLER, HELEN. The story of my life. N. Y., '03.
57. KURTZ, EDWARD. Tierbeobachtung und Tierliebhaberei der alten Griechen. Leipzig, '86.
58. LANGKAVEL, B. Dogs and savages. Smithsonian Rep., '98.
59. LEE, ADELE W. The care of the dog. Outing, '01.
60. LE ROSSIGNAL J. E. Malevolence in the lower animal. Ohio W., 1893.
61. LEONARD, R. MAYNARD. The dog in British Poetry. Gent. Mag., 1894.
62. LETOURNEAU. Ed. in animal kingdom. Pop. Sci. Monthly, '97.
63. LINDSAY, W. L. Mind in the lower animals, 2 V. N. Y., '80.
64. LUBBOCK, J. On the senses, Ins. and Intell. of Animal. N. Y., '97; (No. 65)—On the intelligence of the dog. Nature, '86.
66. MASPERO, M. G. The dogs of Ancient Egypt. Pop. Sci. Monthly, 1891.
67. MCPHERSON, J. G. Scent in Dogs. Gent. Mag., '02.
68. MENAULT, ERNEST. L'Amour Maternal Chez les animaux. Paris, 1877.
69. MILLS, WESLEY. The behavior of blind animals. Pop. Sci. Monthly, '02.
70. MONTEITH, JOHN. The psychology of a dog. Pop. Sci. Monthly, 1894.
71. MORGAN, C. LLOYD. Animal behavior. London, 1900.
72. MORRIS, EDWIN H. The St. Bernard kennels of Am. Outing, '91.
73. ORNE, LENNIE. Humanity of the dogs. Good Words, '61.
74. OSWALD, FELIX L. A zoölogical Enigma. Pop. Sci. Mon., '80.
75. OUIDA. Dogs and their affections. N. Am. Rev., '91.
76. PIATT, DONN. About dogs. Lipp. Mag., '70.
77. REINACH, M. SOLOMON. Le Totemisme Animal. Rev. Scientifique, 1900.
78. RIBOT, TH. The evolution of general ideas. Chicago, '99; (No. 79)—The intelligence of animals. The Open Court, '99.
80. RINGUEBERG, E. A superstitious dog. Pop. Sci. Mon., '83.
81. ROBINSON, LOUIS. Canine Morals and Manners. Pop. Sci. Mon., '93; (No. 82)—Liv. Age, '92.
83. ROBINSON, PHIL. Some notable dogs in fiction. Liv. Age, '98.
84. ROMANES, GEO. J. Animal Intelligence. N. Y., '84; (No. 85)—Mental Ev. in Man, '89; (No. 86)—In animals, '00.
87. SALT, H. S. Animals' rights. London, '92.
88. SIMPSON, EVE B. Edinburgh Dogs. Cham. Jour., '99; (No. 89) D—of War. Art Journal, '92; (No. 90)—Some French hist. dogs, do. 1888.

91. SMALL, MAURICE H. Some physical relations of soc. and solitude. *Ped. Sem.*, '00.
92. STABLES, G. R. M. Dogs. Cham. Jour. '83; (No. 93)—Gratitude in dogs. Leisure Hours, '86.
94. SULLY, JAMES. Children's Ways. N. Y., '97; (No. 95)—Decay of Canine Fidelity. Liv. Age, '90.
96. SUTHERLAND, ALEX. Origin and growth of moral instinct, 2 V. N. Y., '98.
97. THOMAS, N. W. Animal superstitions and totemism. Folklore, 1900.
98. WALLER, JOHN J. If they had been muzzled. Sunday Mag., '97.
99. WARNER, CHAS. DUDLEY. The education of Sam. Century, '00.
100. WARREN, CHARLES. Dogs in London. Cont. Rev., '87.
101. WEIR, JAMES, JR. The dawn of reason. N. Y., '99.
102. WESTCOTT, MICHAEL. Do dogs understand human speech? Recreative Science, '60.
103. WHITMAN, C. D. Myths in animal psychology. Monist, '98.
104. WOOD, REV. J. G. A few dogs. Leisure Hours, '87.
105. ZABRISKI, F. N. The truth about dogs. Lipp. Mag., '85.
106. Landseer's Dogs. Leisure Hours, '64.
107. The dog. Westminster Rev. '66; (No. 108)—The Consciousness of dogs. Liv. Age, '72; (No. 109)—Dogs of literature. Eclectic Mag., 1881.
110. The society of dogs. The Spectator, '87.
111. SHALER, N. S. Domesticated Animals. N. Y. '95.
112. MARSH, MABEL A. Children and animals. Barnes' Studies in Education, 1902.
113. REGIN, E. S. A word about dog collars. Outing, '88.

BIBLIOGRAPHY OF CHILD STUDY.

For the Year 1902.

By Louis N. Wilson, Librarian, Clark University.

1. **Abt, G.** L'écriture en miroir. L'Année Psychologique. Paris, 1902. Vol. 8, pp. 221-255.
   A study of 13 mirror writers found among 80 left-handed persons.
2. —— —— Note sur la lecture et l'écriture chez trois enfants anormaux. Bull. Soc. Étude Psychol. de l'Enfant, 1902, pp. 169-175.
3. **Adams, Cecilia** Hindrances to the development of language. Proc. N. E. A. for 1902, pp. 412-417. Also Kindergarten Magazine, Sept., 1902. Vol 15, pp. 20-24.
   Differentiates speech and language development and discusses speech defects.
4. **Alexander, G.** Zur Frage des postembryonalen Wachstumes des menschlichen Ohrlabyrinthes. Anat. Hefte, 1902. Vol. 19, pp. 569-578.
   —— —— See also Kreidle and Alexander.
5. **Aley, Robert J.** Arithmetic. Rev. of Ed., Jan., 1902. Vol. 7, pp. 235-236.
6. **D'Alfonso, N. R.** Le Anomalie del Linguaggio e la loro Educabilità, Roma, Soc. Ed. Dante Alighieri, 1902, pp. 47.
7. **Allin, Arthur** Some experimental observations on practice and habit. Jour. of Ped., March, 1902. Vol. 14, pp. 237-254.
8. **Allison, James** Practical thoughts on reformatory work. Nat. Conf. Char. and Corr., Boston, 1902, pp. 250-264.
   Deals with the nutrition, occupation, and punishment of delinquents.
9. **Ament, Wilhelm** Begriff und Begriffe der Kindersprache. Sammlung von Abhandlungen aus dem Gebiete der pädagogischen Psychologie und Physiologie. Berlin, 1902. Vol. 5, pp. 85.
10. **André, A. E.** L'œuvre des voyages scolaires. Rev. Péd., July, 1902. Vol. 41, pp. 23-42.
    An account of the school-journey movement in France.
11. **Apert, E.** Les enfants retardataires. Baillière, Paris, 1902, pp. 96.
12. **Arnett, L. D.** Origin and development of home and love of home. Ped. Sem., Sept., 1902. Vol. 9, pp. 324-365.

Previous installments of the Bibliography of Child Study have appeared in the *Pedagogical Seminary*, as follows: April, 1898, Vol. 5, pp. 541-589; Sept., 1899, Vol. 6, pp. 386-410; Dec., 1900, Vol. 7, pp. 526-556; Dec., 1901, Vol. 8, pp. 515-537; Dec., 1902, Vol. 9, pp. 521-542.

13. **Arnold, Sarah L.** Mission of the kindergarten. Rev. of Ed., March, 1902. Vol. 9, pp. 297-298.

14. **Axmann,** —— Zür Behandlung kranker Schulkinder durch Beihülfe der Lehrerschaft. Zeits. für Schulgesundheitspflege, No. 3-4, 1902. Vol. 15, pp. 148-156.

15. **Bacon, John** Thoughts on imitation. The Paidologist, July and Nov., 1902. Vol. 4, pp. 100-104; 160-163.

16. **Bair, J. H.** The practice curve; a study in the formation of habits. New York, 1902, pp. 70.
This is supplement No. 19 of the Psychological Review monographs.

17. **Baker, C. D.** Biology as a means of inducing the pupil to think. Proc. N. E. A., 1902, pp. 468-470.

18. **Baldwin, J. M.** (Editor) Dictionary of philosophy and psychology in 3 vols. Vol. 1, 1901; Vol. 2, 1902, New York and London, Macmillans, pp. 644; 892.

19. —— —— Social and ethical interpretations in mental development. Macmillan Co., N. Y., 1902, pp. 606.

20. **Barnes, Anna Köhler** Children's ideas of lady and gentleman. Barnes' Studies in Education, June, 1902. Vol. 2, pp. 141-150.
Study of class distinctions among English and American children.

21. **Barnes, Earl** Chautauqua lectures on the moral development of the child. Kindergarten Magazine, Oct., 1902. Vol. 15, pp. 73-84.

22. —— —— Children's attitude toward future occupation. Barnes' Studies in Education, Sept., 1902. Vol. 2, pp. 243-258.
A statistical study of 2,360 English children—what they would like to do when they grow to be men and women.

23. —— —— Children's attitude towards theology. Barnes' Studies in Education, Oct., 1902. Vol. 2, pp. 283-307.
Comparative English and American statistical studies on children's ideas of God, heaven, hell, and Old and New Testament preferences.

24. —— —— Children's ideas of war. Barnes' Studies in Education, Nov., 1902. Vol. 2, pp. 323-337.
Compositions by English children on the causes of the South African war furnish the basis of this study. Its purpose is to throw light on the management of adult opinion.

25. —— —— Children's stories and poetry. Barnes' Studies in Education, March to Nov., 1902. Vol. 2, pp. 31-33; 71-73; 112-114; 155-156; 196-197; 234-236; 274-276; 317-318; 356-358.
Stories and verses written by young children with comments on the same.

26. —— —— The development of children's political ideas. Barnes' Studies in Education, March, 1902. Vol. 2, pp. 5-24.
Why English children wish to be like Queen Victoria.

27. —— —— Growth of social judgment. Barnes' Studies in Education, Aug., 1902. Vol. 2, pp. 203-217.
Punishments advocated by English and American children. The study is based on the story of Jennie's paints.

28. **Barnes, Earl** How words get content. Barnes' Studies in Education, April, 1902. Vol. 2, pp. 43-61.
Study of the definition of common words by London and Boston school children.

29. —— —— Political ideas of American children. Barnes' Studies in Education, March, 1902. Vol. 2, pp. 25-30.
Why 1,800 New Jersey children would like to be like the late President McKinley.

30. —— —— The present and future of child study in America. Barnes' Studies in Education, Dec., 1902. Vol. 2, pp. 363-372.
The author seeks in the results of child study a basis in theory and practice in definite knowledge.

31. —— —— The prettiest thing. Barnes' Studies in Education, July, 1902. Vol. 2, pp. 180-194.
A study based upon the prettiest things seen by 700 London children.

32. —— —— Studies on children's drawings. Barnes' Studies in Education, March to June, Aug. to Dec., 1902. Vol. 2, pp. 34-35; 74-77; 109-111; 151-154; 231-233; 271-273; 314-317; 352-355; 388-391.
Collections of spontaneous drawings by children and comments on the same.

33. —— —— Truth versus lies. Kindergarten Magazine, Nov., 1902. Vol. 15, pp. 147-151.

34. —— —— Type study on ideals. Barnes' Studies in Education, March to Nov., 1902. Vol. 2, pp. 36-40; 78-80; 115-120; 157-160; 198-200; 237-240; 277-280; 319-320; 359-360.

35. **Barr, M. W.** Mental defectives; their classification and training. Phila. Med. Jour., 1902. Vol. 9, pp. 195-199.

36. —— —— The recognition and training of mental defectives. Phila. Med. Jour., 1902. Vol. 9, pp. 407-410.

37. **Baudrillart and Roussel** La mémoire de l'orthographe. Bull. Soc. Étude Psy. de l'Enfant, 1902, pp. 140-151.

38. **Beard, R. O.** The physiology of childhood as applied to education. Proc. N. E. A., 1902, pp. 720-727.
Motor training is made the basis of normal development.

39. **Bell, Sanford** A preliminary study of the emotion of love between the sexes. Am. Jour. of Psy., July, 1902. Vol. 13, pp. 325-354.

40. **Benda, Th.** Die Schwachbegabten auf den höheren Schulen. Zeits. f. Schulgesundheitspflege, 1902. Vol. 15, pp. 160-164.

41. **Bentley, I. Madison** The psychology of mental arrangement. Am. Jour. of Psy., April, 1902. Vol. 13, pp. 269-293.

42. **Berkhan,** —— Über den angeborenen oder früh sich zeigenden Wasserkopf (Hydrocephalus internus) und seine Beziehungen zur geistigen Entwickelung. Die Kinderfehler, 1902. Vol. 7, pp. 49-58.
Discusses the large heads of congenitally mentally deficient children.

43. **Bertrand, M.** L'infantilisme dysthyroïdien. (Thèse méd.) Paris, 1902, pp. 60.

44. **Besnard, A.** Dessins d'enfants. Bull. Soc. Étude Psychol. de l'Enfant, 1902, pp. 162-169.

45. **Binet, Alfred** La croissance du crâne et de la face chez les normaux entre 4 ans et 18 ans. L'Année Psychologique, Paris, 1902. Vol. 8, pp. 345-362.

46. —— —— Les proportions du crâne chez les aveugles. L'Année Psychologique, Paris, 1902. Vol. 8, pp. 369-384.

47. —— —— Les proportions du crâne chez les sourds-muets. L'Année Psychologique, Paris, 1902. Vol. 8, pp. 385-389.

48. **Bishop, William Warner and Manny, Frank A.** Do children know the alphabet. Rev. of Ed., April, 1902. Vol. 10, pp. 355-356.

49. **Boitel, J.** La criminalité juvenile. Manuel général de l'instruction primaire, 21 Mai, 1902. Vol. 38, pp. 324-325.

50. **Bolk, L.** De Oorzaken en Beteckenis der Rechtshandigheid. Haarlem, 1901.

51. **Bolton, Frederick E.** New lines of attack in child study. Proc. N. E. A., 1902, pp. 703-710.

52. **Bonser, F. G.** Chums: A study in youthful friendships. Ped. Sem., June, 1902. Vol. 9, pp. 221-236.
An application of the questionnaire method to analyze the propensity of children to form strong individual attachments.

53. **Booth, F. W.** Lessons to be learned by the general teacher from teaching language to the deaf. Proc. N. E. A., 1902, pp. 831-836.

54. **Bourdon, B.** Recherches sur l'habitude. L'Année Psychologique, Paris, 1902. Vol. 8, pp. 327-340.

55. **Boyer, H.** Recherches sur les causes et les époques de la surdité accidentelle enfantine. Bull. de Laryngol., Otol., etc., 1902, pp. 23-25.

56. **Bradley, John E.** The educational value of play. Rev. of Ed., Jan., 1902. Vol. 7, pp. 226-231.

57. **Breton, M. E.** Le syndrome infantilisme: sa nature dysthyroïdienne. Thèse méd., Lille, 1901, pp. 130.

58. **Brinton, D. G.** (Farrand, L. ed.) The basis of social relations. Putnams, N. Y. and London, 1902, pp. 204.

59. **Brockman, F. S.** A study of the moral and religious life of 251 preparatory school students in the United States. Ped. Sem., Sept., 1902. Vol. 9, pp. 255-273.
Shows that 17 is the age of most frequent conversions.

60. **Brown, George P.** Criticism on Stanley Hall's "School of the Future." Kindergarten Magazine, Feb., 1902. Vol. 14, pp. 331-333.

61. **Browne-Chrichton, Sir James** Address at the child study conference. Paidologist, Nov., 1902. Vol. 4, pp. 132-137.

62. **Buchner, Edward Franklin** Fixed visualization: Three new forms. Am. Jour. of Psy., July, 1902. Vol. 13, pp. 355-363.

63. —— —— Some characteristics of the genetic method. Psy. Rev., 1902. Vol. 9, pp. 490-507.

64. **Burgess, M. H.** Evolution of "children's house," Rev. of Ed., March, 1902. Vol. 9, pp. 299-301.

65. **Burk, Frederic** From fundamental to accessory in the development of the nervous system of movements. Rep. Commissioner of Ed., 1900-1901. Vol. 1, pp. 325-344.
The republication of a valuable neurological study.

66. —— —— The genetic versus the logical order in drawing. Ped. Sem., Sept., 1902. Vol. 9, pp. 296-323.
An excellent discussion of the psychologic basis and the pedagogic value of spontaneous drawing in the mental development of the child.

67. **Čáda, Frantesek** (Editor) Ceská Mysl. Prague, 1902.
An excellent Bohemian journal published in the Czeck language with a department of child study, edited by Dr. Čadá.

68. —— —— Hodnota Pedopsychologie. Prague, 1902, pp. 49.
A critical and comprehensive survey of the child study movement.

69. **Call, A. D.** Education versus crime. A study of the state reformatory at Elmira, N. Y., Education. Vol. 22, pp. 587-603.

70. **Cambell, C. Victor** Kindergarten training and motor development; a study of a thousand children. Kindergarten Magazine, Nov., 1902. Vol. 15, pp. 135-142.

71. **Carman, E. Kate** Notes on school activity. Ped. Sem., March, 1902. Vol. 9, pp. 106-117.
Shows how the restless nature of the child chafes against the restrained life of the school.

72. **Carr, Harvey A.** Survival values of play. Investigations of the Dept. of Psychology and Education of the University of Colorado. Boulder, 1902, pp. 47.
A valuable study with an excellent bibliography appended.

73. **Cash, K. G.** Children's pets: A side study. Barnes' Studies in Education, May, 1902. Vol. 2, pp. 100-108.
A statistical study of the humane instincts of English children.

74. —— —— Children's sense of truth. Barnes' Studies in Education, Oct., 1902. Vol. 2, pp. 308-313.

75. **Chadwick-Pratt, Mrs. M. L.** Illustrations for children's stories. Paidologist, Nov., 1902. Vol. 4, pp. 166-170.

76. **Chamberlain, Alexander F.** The contact of "higher" and "lower" races. Ped. Sem., Dec., 1902. Vol. 9, pp. 507-520.

77. —— —— Some recent child-study literature. Ped. Sem., March, 1902. Vol. 9, pp. 43-49.

78. —— —— Work and rest; genius and stupidity. Pop. Sci. Mo., 1902. Vol. 60, pp. 413-423.

79. **Chapin, T. F.** Dietaries. Nat. Conf. Char. and Corr., Boston, 1902, pp. 453-462.
Nutrition suitable for juvenile delinquents.

80. —— —— Play as a reformative agency. Nat. Conf. Char. and Corr., Boston, 1902, pp. 437-440.
Discusses play as an agency in the physical development of delinquents.

81. —— —— Punishments. Nat. Conf. Char. and Corr., Boston, 1902, pp. 426-427.
Use of punishment in reform schools.

82. **Chapple, B. P.** What Minnesota is doing for her blind children. Proc. N. E. A., 1902, pp. 840-844.

83. **Chase, Philo F.** Why children break down in school. Rev. of Ed., March, 1902. Vol. 9, pp. 296-297.

84. **Cheatle, A. H.** The report of an examination of the ears of 1,000 school children between the ages of three and sixteen years in Hanwell Dist. School. Jour. of Laryngol, Rhinol & Otol, 1902. Vol. 17, pp. 282-292.

85. **Cohn, Herm.** Ueber den Druck der Breslauer Schulbücher vom augenärztlichen Standpunkte. Zeits. für Schulgesundheitspflege No. 6, 1902. Vol. 15, pp. 331-333.

86. —— —— Die Augen der in Breslau Medicin Studirenden. Arch. f. Augenhk., 1902. Vol. 46, pp. 29-48.

8 . **Colson, O.** Jeux d'enfants dans la Belgique. Archivio per le Tradizioni Popolari, Palermo, 1902. Vol. 21, pp. 104-110.
A collection of Belgian finger-rhymes.

88. **Colucci,** —— Sui criteri e metodi per l'educabilità dei deficienti e dei dementi. Vol. 2. I Dementi. Riv. Sperim. di Freniat., Reggio, 1902. Vol. 28, pp. 410-451.

89. **Colvin, Stephen S.** Invention versus form in English composition. An inductive study. Ped. Sem., Dec., 1902. Vol. 9, pp. 393-421.
Discusses the relations between content and form in teaching of English.

90. —— —— Rhythm, time and number. Am. Jour. of Psy., Jan., 1902. Vol. 13, pp. 80-97.

91. **Combe, A.** La nervosité de l'enfant. Paris, 1902, pp. 200.

92. **Compayré, Gabriel** Development of the child in later infancy. (Int. Ed. Series), Appleton, New York, 1902, pp. 300.
This is a translation of Part II of Compayré's intellectual and moral development of the child. It treats of the instincts, judgment and reasoning, language, voluntary activities, character and morbid tendencies.

93. **Cook, O. F.** Kinetic evolution in man. Science, June 13, 1902, N. S. Vol. 15, pp. 927-933.

94. **Crothers, Samuel M.** The humor of childhood. Kindergarten Rev., May, 1901. Vol. 12, pp. 515-517.

95. **Curtis, H. S.** Inhibition. Rep. Commissioner Ed., 1900-1901. Vol. 1, pp. 345-356.
Republished from the Pedagogical Seminary, Oct., 1898. Vol. 6, pp. 65-113.

96. **Davis, E. G** A Saturday school. The Paidologist, April, 1902. Vol. 4, pp. 38-40.

97. **DeCock, A.** Taalvervorming in den kindermond. Volkskunde, 1901-2. Vol. 14, pp. 89-100.

98. **Denoel et Epinoux** L'éducation sociale dans les écoles primaires de filles. Manuel général de l'instruction primaire, 5 Juillet, 1902. Vol. 38, pp. 417-419.

99. **Denoy, E.** Descendons-nous du singe? Schleicher, Paris, 1902.

100. **Deroy, F. C.** Psychoses post-typhiques chez les enfants. Thèse mèd., Lille, 1902, pp. 46.

101. **Dewey, John** Interpretation of the savage mind. Psy. Rev., May, 1902. Vol. 9, pp. 217-230.

102. **Dexter, Edwin G.** A study of calms. Pop. Sci. Mo., April, 1902. Vol. 60, pp. 521-528.

103. —— —— The survival of the fittest in motor training. Ed. Rev., Jan., 1902. Vol. 23, pp. 81-91.

104. **Dismorr, Blanche** Ought children to be paid for domestic services? Barnes' Studies in Education, April, 1902. Vol. 2, pp. 62-70.

105. **Doll, L.** Aerztliche Untersuchungen aus der Hilfsschule für schwachsinnige Kinder zu Karlsruhe. Macklot, Karlsruhe, 1902, pp. 62.

106. **Drouot,** —— État intellectuel du sourd muet. Rev. Philanthr., 1902. Vol. 8, pp. 436-471.

107. **Dunton, Wm. Rush** Some points in the diagnosis of dementia præcox. Proc. Am. Medico-Psy. Ass'n, 1902, pp. 147-155.

108. **Eichholz, A.** The treatment of feeble-minded children. Brit. Med. Jour., 1902. Vol. 2, pp. 683-687.

109. **Eigenmann, Carl H.** Physical basis of heredity. Pop. Sci. Mo., May, 1902. Vol. 61, pp. 32-44.

110. **Ellis, G. Harold** Fetichism in children. Ped. Sem., June, 1902. Vol. 9, pp. 205-220.
Suggestive and interesting parallelism between the growth of the individual child and the race.

111. —— —— The pedagogy of Jesus. Ped. Sem., Dec., 1902. Vol. 9, pp. 441-459.

112. **Ellis, Havelock** The criminal. W. Scott, London, 1901, pp. 419.

113. —— —— Studies in the psychology of sex. 2 vols. Watford, Lond., and F. A. Davis Co., Phila., 1900-1902, pp. 204 and 314.
The author places the cause of sincerity against that of reticence in matters of sex. One vol. deals with sexual inversion.

Epinoux. See **Denoel et Epinoux.**

114. **Everett, R.** Educating the deaf-blind. Am. Review of Reviews, 1902. Vol. 35, pp. 435-442.

115. **Ewing, A. E.** Visual tests for children. Am. Jour. of Ophthal., 1902. Vol. 19, pp. 33-37.

116. **Fairweather, Elizabeth K.** The psychological and ethical value of music. Proc. N. E. A., 1902, pp. 621-625.

117. **Ferriani, L.** I drammi dei fanciulli. Como, Ormarini, 1902, pp. 312.
Treats of child-labor, child-suicides and school-martyrdom.

118. **Féré, Charles** L'influence du rhythme sur le travail. L'Année Psychologique, Paris, 1902. Vol. 9, pp. 49-106.

119. **Fernald, Walter E.** The Massachusetts farm colony for the feeble-minded. Nat. Conf. Char. and Corr., Boston, 1902, pp. 487-490.

120. **Ferrari, Giulio C.** Oral method and its fitness for the deaf. Ass'n Rev., Oct., 1902. Vol. 4, pp. 344-356.
The superiority of articulate language to the mimic system in the education of deaf children.

121. —— —— Psychic development and pedagogical treatment of children who are hard of hearing. Ass'n Rev., June, 1902. Vol. 4, pp. 232-239.
Pedagogic suggestions for the treatment of the semi-deaf child.

122. **Finck, Henry T.** Evolution of girlhood. Harper's Magazine, Jan., 1902. Vol. 104, pp. 235-238.

123. **Fischer, Heinrich** Geographische Spaziergänge. Zeits. für Päd. Psy., Dec., 1902. Vol. 4, pp. 442-452.
Discusses home geography and school excursions.

124. **Folks, Homer** The care of destitute, neglected, and delinquent children. Macmillan Co., N. Y., 1902, pp. 251.
An excellent treatment of the institutional aspects of juvenile pauperism and delinquency.

125. **France, J. Clemence** The gambling impulse. Am. Jour. of Psy., July, 1902. Vol. 13, pp. 364-407.

126. **French, F. C.** The mental imagery of students. Psy. Rev., Jan., 1902. Vol. 9, pp. 40-56.

Frenkel. See **Lafon and Frenkel.**

127. **Von Gabnay, F.** Ungarische Puppen., Globus, Braunschweig, 1902. Vol. 80, pp. 205-208.
Describes Hungarian dolls. Báitsa in the country of Sáros is the Hungarian Nürnberg.

128. **Gale, H. and M. C.** Children's vocabularies. Pop. Sci. Mo., May, 1902. Vol. 61, pp. 45-51.

129. —— —— The vocabularies of three children in one family at two and three years of age. Ped. Sem., Dec., 1902. Vol. 9, pp. 422-435.
Full of suggestion to teachers of modern languages on the natural method.

130. **Galton, Francis** The possible improvement of the human breed under existing conditions of law and sentiment. Pop. Sci. Mo., 1902. Vol. 60, pp. 218-233; Man, 1901, 161-164.

131. **Garber, John P.** Co-education. Education, Dec., 1902. Vol. 23, pp. 235-241.

132. **Garnier, P.** La criminalité juvenile. Rev. Scient., 1902. Vol. 17, pp. 449-455.

133. **Gérard-Varet, L.** Le jeu chez l'homme et chez les animaux. Rev. Scient., 1902. Vol. 17, pp. 485-491.

134. **Giessler, C. M.** Die Gerüche vom psychogenetischen Standpunkte aus. Vtljsch. f. wiss. Philos. u. Sociol., 1902. Vol. 26, pp. 49-76.

135. **Goddard, Henry H.** Negative ideals. Barnes' Studies in Education, Dec., 1902. Vol. 2, pp. 392-398.
A statistical study of the people whom children would not wish to be like.

136. **Gordon, A.** A note on some psychoses of early puberty with report of a case in a boy, 12 years old. Phila. Med. Jour., 1902. Vol. 10, pp. 332-335.

137. **Gregor, K.** Untersuchungen über der Athmungsgrösse des Kindes. Arch. f. Anat. u Physiol., Physiol. Abth., 1902, Suppl. Bd., pp. 59-118, Arch. f. Kinderhlk., 1902. Vol. 35, pp. 272-304.

138. **Griggs, Edward Howard** Influence of parent and teacher in moral education. Kindergarten Mag., May, 1902. Vol. 14, pp. 553-556.

139. **Groszmann, M. P. E.** The treatment of defectives. N. Y. Med. Jour., 1902. Vol. 75, pp. 187-193.

140. **Guimaraens, F. da C.** Le besoin de prier et ses conditions psychologiques. Rev. Philos., 1902. Vol. 54, pp. 391-412.

141. **Gulick, L.** Interest in relation to muscular exercise. Am. Phys., Ed. Rev., 1902. Vol. 7, pp. 57-65.

142. **Gutzmann, Albert** Care of the speech of children in the family and in the school. Ass'n Review, April, 1902. Vol. 4, pp. 107-112.

143. **Gutzmann, H.** Ueber die Sprache der Schwerhörigen und Ertaubten. Deutsche med. Wochensch, 1902. Vol. 28, pp. 18-19.

144. —— —— Ueber die Stummheit der Kinder. Fortsch. d. Med., 1902. Vol. 20, pp. 601-606.

145. **Hall, Frank H.** Transition in mental training from the spoken to the written symbol. Jour. of Ped., March, 1902. Vol. 14, pp. 214-223.

146. **Hall, G. Stanley** Adolescents and high school English, Latin, and algebra. Ped. Sem., March, 1902. Vol. 9, pp. 92-105.
A discussion of the logical and genetic order in the approach to secondary school studies.

147. **Hall, G. Stanley** Ausgewählte Beiträge zur Kinderpsychologie und Pädagogik. Aus dem Englischen uebersetzt von Joseph Stimpfl, Altenburg, 1902, pp. 454.
A translation of 13 valuable papers on the psychology of childhood.

148. —— —— The ideal school as based on child study. Paidologist, April, 1902. Vol. 4, pp. 32-38.

149. —— —— Some social aspects of education. Ped. Sem., March, 1902. Vol. 9, pp. 81-91.

150. **Hall, G. Stanley and Wallin, J. E. W.** How children and youth think and feel about clouds. Ped. Sem., Dec., 1902. Vol. 9, pp. 460-506.
Sheds light upon the position of sentiment in nature teaching.

151. **Hamilton, Samuel** The teacher's work. Rev. of Ed., May, 1902. Vol. 11, pp. 378-380.

152. **Harrison, Elizabeth** How the mastery of language is aided by the kindergarten. Kindergarten Rev., Sept., 1902. Vol. 13, pp. 42-44.

153. **Hattie W. H.** The role of education in the development of self-control. Proc. Am. Medico-Psy. Ass'n, 1902, pp. 252-260.

154. **Hefferan, Mrs. Helen M.** The organization of the associations of parents of deaf children as an aid to schools. Proc. N. E. A., 1902, pp. 848-850.

155. **Henri, Victor** Education de la mémoire. L'Année Psychologique, Paris, 1902. Vol. 8, pp. 1-48.
An experimental study of the memory span.

156. **Hermann, A.** Ueber Kopfschmerzen bei Schulkindern und ihre Beeinflussung durch suggestive Behandlung. (Inaug. Diss.) Breslau, 1902, pp. 28.

157. **Hill, Patty S.** Punishment. Kindergarten Rev., Sept., 1902. Vol. 13, pp. 11-17.

158. **Hill, Walter B.** Psychology and ethics of fun. Kindergarten Mag., April and May, 1902. Vol. 14, pp. 451-458; 521-528. Also Proc. N. E. A., 1902, pp. 286-297.

159. **Hines, Jessie Scott** The middle ground in gift work. Kindergarten Mag., Nov., 1902. Vol. 15, pp. 152-161.

160. **Hirschlaff, L.** Ueber die Furcht der Kinder, II and III. Zeit. für Päd. Psy., 1902. Vol. 4, pp. 39-56; 141-156.

161. **Hitz, John** (Editor) International reports of schools for the deaf made to the Volta Bureau. Washington, 1902, pp. 56.
This report furnishes conclusive proof of the growth of oral schools for the deaf in the different countries of the world.

162. **Hoche, A.** Ueber Dementia præcox. Deutsche Klinik, 1902. Vol. 6, pp. 207-224.

163. **Hoeve, J. van der** Beiträge zur Lehre vom Schielen. Arch. f. Augenhk, 1902. Vol. 46, pp. 172-183; 185-231.

164. **Hoffman, H.** Construction and activity of the brain with special regard to speaking and speech. Ass'n Review, Oct., 1902. Vol. 4, pp. 313-322.
Discusses the relation of mental efficiency to speech.

165. **Holman, H.** The philosophy of play. Paidologist, July, 1902. Vol. 4, pp. 92-97.

166. —— —— Principles and practices in education. Paidologist, Nov., 1902. Vol. 4, pp. 170-173.

167. **Howerth, I. W.** Education and social progress. Ed. Rev., April, 1902. Vol. 23, pp. 355-370.

168. —— —— Education and the individual. Jour. of Ped., June, 1902. Vol. 14, pp. 321-324.

169. **Hughes, James L.** Art as an educational factor. School Journal, July 19, 1902. Vol. 45, pp. 68-71.

170. **Hylan, J. P., and Kraepelin, Emil** Ueber die Wirkung kurzer Arbeitszeiten. Psychologische Arbeiten, 1902. Vol. 4, pp. 454-494.

171. **Jessen, Peter** Die Erziehung zur bildenden Kunst. Zeits. für Päd. Psy., Feb., 1902. Vol. 4, pp. 1-10.

172. **Johnson, W. S.** Experiments on motor education. Studies from the Yale Psy. Lab., 1902. Vol. 10, pp. 81-93.

173. **Jordan, W. R.** Heredity. Paidologist, April, 1902. Vol. 4, pp. 8-19.

174. **Judd, C. H.** Action as a condition of mental growth. Am. Phys. Ed. Rev., 1901. Vol. 6, pp. 199-203.

175. —— —— An experimental study in writing movements. Wundt's Philos. Studien, 1902. Vol. 19, pp. 243-259.

176. —— —— Practice and its effects on the perception of illusions. Psy. Rev., Jan., 1902. Vol. 9, pp. 27-39.

177. **Keasbey, L. M.** The descent of man. Pop. Sci. Mo., Feb., 1902. Vol. 60, pp. 365-376.

178. **Kielhorn, H.** Die Fürsorge für geistig minderwerthige. Jugendfürsorge, 1901. Heft. 7, pp. 18.

179. **Kimmins, C. W.** Child study in relation to the house. Paidologist, Nov., 1902. Vol. 4, pp. 141-143.

180. **Kirkpatrick, E. A.** Physiology of the nervous system in childhood as applied to education. Education, Dec., 1902. Vol. 23, pp. 193-203.

181. **Körte, Oswald** Gedanken und Erfahrungen über musikalische Erziehung. Zeits. für Päd. Psy., Feb., 1902. Vol. 4, pp. 11-39.

182. **Kovalcheff, N.** Les paralysies chez l'enfant. Toulouse, 1902, pp. 103.

183. **Kozlovski,** —— La psychogénèse de l'étendue. Rev. Philos., 1902. Vol. 54, pp. 570-594.

184. **Kraepelin, Emile** Die Arbeitscurve. Wundt's Philos. Studien, 1902. Vol. 19, pp. 458-507.

A summary of the valuable researches made by Professor Kraepelin and his students on the problem of fatigue.

—— —— See **Hylan and Kraepelin.**

185. **Krauss, W. C.** Heredity—with a study of the statistics of the New York State Hospital. Am. Jour. of Insanity, 1902. Vol. 58, pp. 607-624.

186. **Kreidle, A., and Alexander G.** Entwurf zu einer Statistik der körperlichen und geistigen Entwicklung Taubstummer in Oesterreich während der ersten Lebensjahre. Wien. klin. Wochensch., 1902. Vol. 15, pp. 418-420.

187. **Krenn, Regine** Das schwachbegabte Kind und dessen Unterricht im Elternhause und in der Schule. Zeits. für Schulgesundheitspflege, 1902. Vol. 15, pp. 93-100.

188. **Kropotkin, P.** Mutual aid: A factor of evolution. London, 1902, pp. 368.

189. **Lafon, G. and Frenkel** Etude graphique des oscillations rhythmiques de la tête chez les sujets sains. C. R. Soc. de Biol., 1902. Vol. 54, pp. 660-661.

190. **Landau, Richard** Zur geschichtlichen Entwickelung Schulhygiene. Zeits. für Schulgesundheitspflege, No. 10, 1902. Vol. 15, pp. 576-578.

191. **Laprade, A.** Contributions à l'étude de l'écriture en miroir. Paris, 1902, pp. 58.

192. **Largnier des Bancels, J.** Les méthodes de mémorisation. L'Année Psychologique, 1901. Vol. 8, pp. 184-204

193. —— —— Sur la Mémorisation. Bull. Soc. Étude Psy. de l'Enfant, 1902, pp. 137-139.

194. **Lèfevre, G.** Notes d'écoliers: leurs relations avec l'âge, le sexe, et la couleur des cheveux. Revue Pédagogique, Sept., 1902. Vol. 41, pp. 201-220.

A statistical study of the relation of the color of hair to mental efficiency of 22,000 French children.

195. **Lehne, G.** Wie kann der Lehrer die Lügenhaftigkeit der Jugend bekämpfen, Kinderfehler, 1902. Vol. 7, pp. 58-74.

196. **Leiteisen, G.** Rôle du surmenage physique dans l'éclosion des psychoses de puberté. Thèse med., Paris, 1902, pp. 54.

197. **Lemaître, A.** Le langage interieur chez les enfants. Viret-Genton, Lausanne, 1902.

198. **Liebmann, A.** Die Sprache schwerhöriger Kinder. Bresgen's Samml. Zwangl. Abhandl., 1901. Vol. 5.

199. **Liebmann, A.** Die sprachliche Entwicklung und Behandlung geistig zurückgebliebener Kinder. Zeits. für Päd. Psy., April, 1902. Vol. 4, pp. 97-120.
Discusses the speech defects of mentally deficient children.

200. **Lobsien, Marx** Schwankungen der psychischen Kapazität. (Sammlung von Abh. a. d. Gebiete d. Päd. Psy. u. Physiol.) Berlin, 1902. Vol. 5, pp. 110.

201. **Loesch Angeline** The child study department of the Chicago public schools. School Journal, Aug. 30, 1902. Vol. 45, pp. 164-165. Also in Proc. N. E. A., 1902, pp. 710-716.

202. **Loeschhorn, Karl** Einige Worte über die gemeinsame Erziehung der beiden Geschlechter. Zeits. für Päd. Psy., June, 1902. Vol. 4, pp. 223-228.

203. —— —— Ueber Kompensationen bei der Beurteilung der Schüler. Zeits. für Päd. Psy., April, 1902. Vol. 4, pp. 135-140.

204. **Lombroso, C.** Puberty and genius. Alienist and Neurologist, April and July, 1902. Vol. 23, pp. 176-182; 257-265.

205. —— —— Why criminals of genius have no type. International Quart., Dec., 1902. Vol. 6, pp. 229-240.

206. **Louch, Mary** Some common objections to child study. Paidologist, Nov., 1902. Vol. 4, pp. 137-141.

207. **MacDonell, W. R.** On criminal anthropology and the identification of criminals. Biometrika, 1902. Vol. 1, pp. 177-227.

208. **MacDougall, Robert** Relation of auditory rhythm to nervous discharge. Psy. Rev., Sept., 1902. Vol. 9, pp. 460-480.

209. —— —— Rhythm, time and number. Am. Jour. of Psy., Jan., 1902. Vol. 13, pp. 88-97.

210. **MacEacharn, Madeline** Domestic authority. Child Life (London), July, 1902. Vol. 4, pp. 137-139.

211. —— —— Education of the sense of humor. Child Life (London), Oct., 1902. Vol. 4, pp. 222-224.

212. **McKendrick, John G.** Experimental phonetics. Ass'n Review, Oct., 1902. Vol. 4, pp. 327-343.
An excellent brief statement of researches in the field of experimental phonetics.

213. **Maknen, G. Hudson** Speech as a factor in the diagnosis and prognosis of backwardness in children. Jour. of Psycho-Asthenics, March, June, 1902. Vol. 6, pp. 80-83.
It is the belief of the author that the best method of arriving at a proximately correct prognosis in cases of backward children is the speech-test.

214. **Malapert,** —— Une enquête sur la colère. Bull. Soc. Étude Psychol. de l'Enfant, 1902, pp. 241-244.

Manny. See **Bishop and Manny.**

215. **Marage,** —— Phonation et audition d'après les travaux récents publiés en France. L'Année Psychologique, Paris, 1902. Vol. 8, pp. 257-298.
A valuable résumé of recent experimental studies in phonetics.

216. **Marsden, R. E.** Records from a parent's note book. Paidologist, July and Nov., 1902. Vol. 4, pp. 97-100; 155-159.

217. **Marsh, Mabel A.** Children and animals. Barnes' Studies in Education, May, 1902. Vol. 2, pp. 83-99.

218. **Masselon, R.** Psychologie des déments précoces. Thèse mèd., Paris, 1902, pp. 265.

219. **Maupate,** —— Du langage chez les idiots. Ann. Medico-Psychol., 1901. Vol. 15, pp. 37-49; 230-239; 401-413.

220. **Meeus, F.** De la démence précoce. Jour. de Neurol., 1902. Vol. 7, pp. 449-467.

221. **Milligen, M.** Schools for invalid children. Child Life (London), July, 1902. Vol. 4, pp. 140-144.
An account of the London settlement movement to provide children who are incapacitated from attending the ordinary schools a means of obtaining an elementary education.

222. **Monroe, Will S.** Elective system and its limits. Rep. of the Board of Regents of the Univ. of the State of N. Y., 1902, pp. 209-212.
Maintains that the course of study must take into account the interests of the child.

223. **Morgan, C. L.** The beginnings of mind. Internat. Qt., Dec., 1902. Vol 6, pp. 330-352.

224. **Moses, J.** Schulhygienische Betrachtungen über Gliederung und Organisation der deutschen Volksschule. Zeits. für Schulgesundheitspflege, No. 8, 1902. Vol. 15, pp. 427-434.

225. **Mouribal. A.** Contribution à l'étude de l'enfantilisme. Thèse méd., Toulouse, 1902, pp. 89.

226. **Müller, J.** Das sexuelle Leben der Naturvölker. Das sexuelle Leben der alten Kulturvölker. Th. Grieben, Leipzig, 1902.

227. **Murray, G.** The report of an examination of the ears of 400 school children. J. of Laryngol., Rhinol. and Otol., 1902. Vol. 17, pp. 293-294.

228. **Myers, C. S.** A study of Papuan Hearing. Arch. of Otol., 1902. Vol. 31, pp. 283-288.

229. —— —— The visual acuity of the natives of Sarawak. Jour. of Physiology, 1902. Vol. 28, pp. 316-318.

230. **Nandy,** —— L'éducation des enfants arriérés. Manuel général de l'instruction primaire, 2 Août, 1902. Vol. 38, pp. 481-483.

231. **Netschajeff, C.** Über Memorieren. Samml. von Abhand. a.d. Gebiete der Päd. Psy. u. Physiol., Berlin, 1902. Vol. 5, pp. 39.
An excellent statistical study of the memory of Russian school children.

232. **Newell, W. W.** Fairy lore and primitive religion. Internat. Monthly, Mar., 1902. Vol. 5, pp. 316-337.

233. **Nibecker, F. H.** Punishments. Nat. Conf. Char. and Corr., Boston, 1902, pp. 427-431.

234. **Noss, Theodore B.** What our schools owe to child study. Proc. N. E. A., 1902, pp. 716-719.

The author maintains that the aim of education, course of study, and methods of teaching must be based upon child study.

235. **O'Shea, M. V.** Educational and social aspects of pictorial art. School Journal, Nov. 29, 1902. Vol. 65, pp. 531-533.

236. —— —— Work and play in adjustment to the school environment. Notes on Groos' The Play of Man. Am. Jour. of Sociology, Nov., 1902. Vol. 8, pp. 382-389.

237. **Oldys, H. W.** Parallel growth of bird and human music. Harper's Mag., Aug., 1902. Vol. 105, pp. 474-478.

238. **Oppenheim, Nathan** Mental growth and control. New York, 1902, pp. 296.

Contents: Character, the mind, attention, association, instinct, memory, habit, hypnotism and suggestion, imagination, emotions, reasoning, the will.

239. **Partridge, Geo. E.** Studies of individual children. Ped. Sem., Dec., 1902. Vol. 9, pp. 436-440.

240. **Partridge, Lena** Children's drawings of men and women. Barnes' Studies in Education, July, 1902. Vol. 2, pp. 163-179.

241. **Payton, C. L.** Feelings as factor in school training. N. Y., School Jour., May 24 and 31, 1902. Vol 64, pp. 594-595; 615.

242. **Peabody, Endicott** The relation of the home to the preparatory school. Rev. of Ed., Feb., 1902. Vol. 8, pp. 260-263.

243. **Pearson, K.** On the correlation of intellectual ability with the size and shape of the head. Proc. Roy. Soc., 1902. Vol. 69, pp. 333-342.

244. **Platt, W.** Children and disobedience. Paidologist, Nov., 1902. Vol. 4, pp. 164-166.

245. —— —— Children's tunes. Paidologist, April, 1902. Vol. 4, pp. 2-7.

246. **Poetter, A.** Die Schulärzte in Leipzig und ihre bisherige Thätigheit mit besonderer Berücksichtigung der Untersuchung der in die Schule neu eingetretenen Kinder. Zeits. für Schulgesundheitspflege, No. 5, 1902. Vol. 15, pp. 214-259.

247. **Prentice, May H.** Myth and history in the elementary schools; the use and limits of each. Kindergarten Mag., Sept., 1902. Vol. 15, pp. 6-13. Also Proc. N. E. A., 1902, pp. 447-453.

248. **Putnam, Alice H.** How Froebel planned to foster the child's powers in language. Kindergarten Mag., Sept., 1902. Vol 15, pp. 14-19. Also Proc. N. E. A., 1902, pp. 417-421.

249. **Putnam, Alice H.** Work and play. Rev. of Ed., April, 1902. Vol. 10, pp. 356.

250. **Queyrat, F.** La logique chez l'enfant et sa culture. Paris, 1902, pp. 158.

251. **Randall, C. D.** The progress of State care of dependent children in the United States. Nat. Conf. Char. and Corr., Boston, 1902, pp. 243-249.

252. **Rheinhard, W.** Der Mensch als Thierrasse und seine Triebe. Beiträge zu Darwin und Nietzsche, Leipzig, 1902, pp. 235.

253. **Rhoades, Lillian Ione** Bibliography of child study. Board of Education, Phila., 1902, pp. 128.
A list of 1,090 book and periodical references on child study in the pedagogical library of the Board of Education of Philadelphia.

254. **Rivers, W. H. R.** The color vision of the natives of Upper Egypt. Jour. of Anthropological Inst., N. S., 1901, July to Dec. Vol 4, pp. 229-247.

255. **Robin, F. R.** Surdi-cécité et moyens pour communiquer avec les sourds-aveugles. (Thèse méd.), Bordeaux, 1902, pp. 76.

256. **Robinson, George B.** The distinction between destitute and delinquent children. Nat. Conf. Char. and Corr., Boston, 1902, pp. 440-443.

257. **Rodiet, A.** Les enfants alcooliques. Rev. Philanthr., Oct., 1902, pp. 654-673; Nov., pp. 48-61.

258. **Rogers, A. C.** What Minnesota is doing for her feeble-minded and epileptics. Proc. N. E. A., 1902, pp. 845-846.

259. **Rose, H. A.** Unlucky children. Folk-Lore, London, 1902. Vol. 13, pp. 63-68.
Customs and superstitions in India concerning the order of birth.

260. **Rowe, Stuart H.** School game for girls. Education, Nov., 1902. Vol. 23, pp. 155-160.

261. **Russell F.** Know, then, thyself. Science, N. S., 1902. Vol. 15, pp. 561-571. Jour. of Am. Folk-Lore, 1902. Vol. 15, pp. 1-13.
Treats of educational value of anthropology.

262. **Saenger, A.** Neurasthenie und Hysterie bei Kindern. Berlin, 1902, pp. 32.

263. **Sanford, Edmund C.** Illustrations of the application of psychological principles to ethical problems. Ped. Sem., March, 1902. Vol. 9, pp. 18-27.
The author contends that psychology has generalizations that throw light on spiritual experiences.

264. —— —— Mental growth and decay. Am. Jour. of Psy., July, 1902. Vol. 13, pp. 426-449.
A comprehensive and scientific statement of the laws of growth with special reference to adolescence and senescence.

265. **Saunders, Una M.** Student life in India. Child Life (London), July, 1902. Vol. 4, pp. 147.
Gives an account of the education of girls in India.

266. **Scherer, H.** Der Werkunterricht in seiner soziologischen und physiologisch-pädagogischen Begründung. (Samml. von Abhand. a. d. Gebiete d. Päd. Psy. Physiol.) Berlin, 1902. Vol. 6, pp. 50.

267. **Schiller, Hermann** Der Aufsatz in der Muttersprache. (Samml. von Abhand. a. d. Gebiete d. Päd. Psy. u. Physiol.) Berlin, 1902. Vol. 5, pp. 61.

268. **Schlesinger,** —— Ueber die Beziehungen zwischen Schädelgrösse und Sprachentwicklung. (Diss. med.) Breslau, 1902, pp. 29.

269. **Schulthess, Wilhelm** Schule und Rückgratsverkrümmung. Zeits. für Schulgesundheitspflege, No. 1, 1902. Vol. 15, pp. 11-26; 91-93.

270. **Schurtz, H.** Altersklassen und Männerbünde. Reimer, Berlin, 1902.

271. **Schuyten, M. C.** Over Geheugenvariatie bij Schoolkinderen. Paedol. Jaarb., 1902-3. Vols. 3-4, pp. 240-256.

272. **Sears, Charles H.** The psychology of rhythm. Am. Jour. of Psy., Jan., 1902. Vol. 13, pp. 28-61.
An exhaustive study of the rhythmical sense in children and the utility of rhythm in instruction.

273. **Seashore, C. E.** A method of measuring mental work. (Univ. of Iowa Studies in Psy.), Iowa City, 1902. Vol. 3, pp. 1-17.

274. **Seglas, J.** Démence précoce et catatonie. Nouv. Icon. Salpêtriére, 1902. Vol. 15, pp. 330-346.

275. **Seligmann, C. G.** Sexual inversion among primitive races. Alienist and Neurologist, 1902. Vol. 23, pp. 11-15.

276 **Sérieux and Masselon** Troubles psychiques chez les déments précoces. An. Medico-Psychol., 1902. Vol. 16, pp. 449-463.

277. **Sherrington** Child study and physiology. Paidologist, July, 1902. Vol. 4, pp. 75-84.

278. **Slaughter, J. W.** The moon in childhood and folk lore. Am. Jour. of Psy., April, 1902. Vol. 13, pp. 294-318.

279. **Smith, Anna Tolman** The recent reaction in France against Rousseau's negation of society in education. Proc. N. E. A., 1902, pp. 383-386.

280. **Snider, D. J.** Social institutions: In their origin, growth, and interconnection, psychologically treated. Sigma Pub. Co., St. Louis, Mo., 1901, pp. 615.

281. **Steiger, Adolf** Einige Bemerkungen über Methode und Resultate der Augenuntersuchungen in den Volksschulen der Stadt Zürich. Zeits. für Schulgesundheitspflege, No. 3 and 4. Vol. 15, pp. 123-141.

282. **Stern, L. W.** Ueber Psychologie der individuellen Differenzen. (Schriften der Gesellschaft für psychologische Forschung, Heft., 12.) J. A. Barth, Leipzig, 1900, pp. 146.
Contains bibliography on mental tests, memory types, temperament, etc.

283. **Street, J. R.** Adolescence. Jour. of Ped., 1902. Vol. 15, pp. 93-104.

284. **Stroszner, Edmund** Einiges über den Tabak namentlich mit Bezug auf das Rauchen der Schuljugend. Zeits. für Schulgesundheitspflege, No. 8, 1902. Vol. 15, pp. 419-427.
A discussion of the use of tobacco on the mental and physical development of children.

285. **Sully, James** An essay on laughter; its forms, its causes, its development and its value. Longmans, Green & Co., N. Y., 1902, pp. 441.

286. —— —— Les théories du rîsible. Rev. Philos., Aug., 1902. Vol. 54, pp. 113-139.

287. **Szeyko, J.** Influence de l'éducation sur le developpement de la neurasthénie. Thèse méd., Lyon, 1902, pp. 83.

288. **Talbot, Eugene S.** Juvenile female delinquents. Alienist and Neurologist, 1902. Vol. 23, pp. 16-27; 163-175.

289. **Tate, J. N.** What is Minnesota doing for her deaf children? Proc. N. E. A., 1902, pp. 836-840.

290. **Tews, J.** Institutions for the defective in Germany. Rep. Commissioner of Ed., 1900-1901. Vol. 1, pp. 40-48.

291. **Thiemich, M.** Ueber die Functionsfähigkeit der motorischen Rindenfelder beim Säuglinge. Ztsch. f. klin. Med., 1902. Vol. 45, 226-236.

292. **Tibbey, T. G.** The amateur and child study. Paidologist, Nov., 1902. Vol. 4, pp. 144-146.

293. **Titchener, E. B.** Were the earliest organic movements conscious or unconscious? Pop. Sci. Mo., Mar., 1902. Vol. 60, pp. 458-469.

294. **Tredgold, A. F.** Remarks on the subsequent history of children born whilst the mother was insane. Lancet, 1902. Vol. 1, pp. 1380-1385.

265. **Triplett, Norman** A contribution to individual psychology. Am. Jour. of Psy., Jan., 1902. Vol. 13, pp. 149-160.

296. **Trueper, J.** Ueber das Zusammenwirken von Medizin und Pädagogik bei Fürsorge für unsere abnormen Kinder. Kinderfehler, 1902. Vol. 7, pp. 97-122.

297. **Tschermak, A.** Ueber die absolute Localisation bei Schielenden. Arch. f. Ophthal. (v. Graefe's), 1902. Vol. 55, pp. 1-45.

298. **Upthoff, W.** Ein weiterer Beitrag zur angeborenen totalen Farbenblindheit. Ztsch. f. Psychol., 1902. Vol. 27, pp. 344-360.

299. **Urbantschitsch, V.** Exercises acoustiques méthodiques dans la surdi-mudité. Parole, 1902. Vol. 12, pp. 29-56.

300. **Van den Broeck, P., and A. D'Hooge** Kinderspelen uit het Land van Dendermond. Utrecht, Bracckmans, 1902, pp. 102.
A good collection of Flemish songs and games of children.

301. **Vanderwalker, Nina G.** Child life as recorded in history, and its place in kindergarten training. Rev. of Ed., May, 1902. Vol. 11, pp. 375-378.

302. **Vergely, P.** Hallucinations diurnes chez les enfants. Rev. Mens. d. Mal de l'Enfance, 1902. Vol. 20.

303. **Wade, W.** The deaf-blind. Indianapolis, 1902, pp. 80.

304. **Walker, M. R.** Caution in child study. Paidologist, April and July, 1902. Vol. 4, pp. 19-24; 84-92.

Wallin See **Hall and Wallin.**

305. **Wegener** Ein Beitrag zur Frage nach den Ursachen der Minderbegabung von Schulkindern. Zeits. für Schulgesundheitspflege, No. 11, 1902. Vol. 15, pp. 620-622.

306. **Wegschieder-Ziegler, Hildegard** Erfahrungen im Gymnasialunterricht für Mädchen als Beitrag zur Frage der gemeinschaftlichen Erziehung beider Geschlechter. Zeits. Päd. Psy., June, 1902. Vol. 4, pp. 212-222.

307. **Wetterwald, X.** Sprachstörungen. Kinderfehler, 1902. Vol. 7, pp. 145-176.

308. **Williams, Lillie A.** Children's interest in words. Ped. Sem., Sept., 1902. Vol. 9, pp. 274-295.
The immense importance of hearing in the affective side of language clearly shown.

309. **Williams, Mabel Clare** Normal illusions in geometrical forms. (Univ. of Iowa Studies in Psy.), Iowa city, 1902. Vol. 3, pp. 38-139.

310. **Wilson, Louis N.** Bibliography of child study for the year 1901. Ped. Sem., Dec., 1902. Vol. 9, pp. 521-542.
Bibliographic references to 307 books and periodical articles on child study.

311. **Wissler, Clark** A review of progress in school tests. Jour. of Ped., March, 1902. Vol. 14, pp. 203-213.

312. **Withers, O.** Children's early drawings. Paidologist, April, 1902. Vol. 4, pp. 25-32.

313. **Woods, Frederick Adams** Mental and moral heredity in royalty. Pop. Sci. Mo., Aug. to Dec., 1902. Vol. 61, pp. 369-378; 449-460; 506-513; Vol. 62, pp. 76-84; 167-182.

314. **Woolston, H. B.** Religious emotions. Am. Jour. of Psy., Jan., 1902. Vol. 13, pp. 62-79.

315. **Wray, C.** Civilization and eyesight. Brit. Med. Jour., 1902, pp. 1434-1435.

316. **Wuensch, R.** Aus der Kinderstube. Hessische Blätter für Volkskunde, Leipzig, 1902. Vol. 1, pp. 134-137.

Treats of such relics of exorcism and demonology as the mother's driving away pain by blowing on hurt, etc.

317. **Wylie, Arthur R. T.** On the psychology and pedagogy of the blind. Ped. Sem., June, 1902. Vol. 9, pp. 127-160.

An excellent recent statement of the mental and physical characteristics of blind children.

318. **York, E. E.** The cultivation of individuality. Nat. Conf. Char. and Corr., Boston, 1902, pp. 261-264.

319. **Young, Sarah** Children's travel interests. Barnes' Studies in Education, Nov., 1902. Vol. 2, pp. 338-351.

An account of enjoyable journeys made by 1,280 English children.

320. —— —— Delegated authority. Barnes' Studies in Education. Aug., 1902. Vol. 2, pp. 218-226.

With comments by Professor Earl Barnes (pp. 227-230) on the delegation of authority by parents and teachers.

321. —— —— School girls' ideas of women's occupations. Barnes' Studies in Education, Sept., 1902. Vol. 2, pp. 259-270.

A study of the motives which influence children with respect to prospective occupations.

322. —— —— A study in children's social environment. Barnes' Studies in Education, June, 1902. Vol. 2, pp. 123-140.

A study of the ambitions of English children.

323. —— —— The teaching of geography. Barnes' Studies in Education, Dec., 1902. Vol. 2, pp. 373-387.

324. **Ziehen, Th.** Die Geisteskrankheiten des Kindesalters. Samml. von Abhand. a. de Gebiete d. Päd. Psy., u. Physiol., Berlin, 1902. Vol. 5, pp. 79.

A valuable study of the mental diseases of childhood and of school factors inducing mental disease.

325. —— —— Ueber die allgemeinen Beziehungen zwischen Gehirn und Seelenleben. Leipzig, 1902, pp. 66.

326. **Zirkle, Homer** Medical inspection of schools. (Investigations of the Dept. of Psychology and Education of the Univ. of Colorado.) Boulder, 1902, pp. 66.

Besides discussing medical inspection and school diseases this monograph has brief but valuable paragraphs on mental and physical defects, eyesight and deafness.

---

327. British child study association: Proceedings of the Hampton Wick Conference. London, 1902, pp. 57.

A souvenir volume containing papers on child study by Dr. Langdon-Down, Sir James Crichton-Browne, Miss Mary Louch, Dr. C. W. Kimmins, Henry Holman, Dr. Geo. E. Shuttleworth, and E. E. Matherson.

328. Child labor in Germany outside of factories. Rep. Commissioner of Ed., 1900-1901. Vol. 1, pp. 54-80.

329. Child study records. N. Y. School Jour., Feb., 15, 1902. Vol. 64, p. 190.

330. Children's ideals. Paidologist, April, 1902. Vol. 4, pp. 40-41.

331. Co-education of the sexes in the United States. Rep. Commissioner of Ed., 1900-1901, Washington, 1902. Vol. 2, pp. 1217-1315.

A valuable and exhaustive discussion with an excellent bibliography appended.

332. Compulsory attendance and child-labor laws. Rep. Commissioner Ed., 1900-1901, Washington, 1902. Vol. 2, pp. 2409-2415.

Contains a résumé of statutory provisions relating to compulsory school attendance and child labor.

333. Educational results of child study. N. Y. School Jour., June 14, 1902. Vol. 64, p. 680.

334. First comprehensive attempts at child study. Rep. Commissioner of Ed., 1900-1901. Vol. 1, pp. 709-729.

An account of the Berlin study of the contents of children's minds upon entering school.

335. First two years at school. N. Y. School Jour., Jan. 25, 1902. Vol. 64, p. 90.

336. Health of school children. N. Y. School Jour., March, 1902. Vol. 64, p. 235.

337. L'enfance abandonné ou coupable. Rev. Péd., 15 Janvier, 1902. Vol. 40, pp. 36-45.

338. Message of the child. N. Y. School Jour., May 17, 1902. Vol. 64, pp. 559-560.

339. New law concerning reformatory education of children in Prussia. Rep. Commissioner of Ed., 1900-1901. Vol. 1, pp. 48-54.

340. Physical exercise in afternoon recess. N. Y. School Jour., Feb. 8, 1902. Vol. 64, p. 175.

341. Sleep of children. Rev. of Ed., Jan., 1902. Vol. 7, pp. 231-232.

342. Training to think. N. Y. School Jour., May 3, 1902. Vol. 64, p. 492.

343. Will-training and school management. N. Y. School Jour., Jan. 25, 1902. Vol. 64, p. 89.

344. Worth of an individual child. N. Y. School Jour., May 10, 1902. Vol. 64, p. 545.

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BOOK NOTES.

Three Recent Books on Genetic Psychology.

The Psychology of Child Development, by Irving King. The University of Chicago Press, 1903, pp. xx + 265.

Fundamentals of Child Study, by Edwin A. Kirkpatrick. The Macmillan Co., 1903, pp. 384.

Genetic Psychology for Teachers, by Charles Hubbard Judd. Appleton and Co. (International Education Series), New York, 1903, pp. xii + 332.

Of these three books, Mr. King's is the only one which offers a systematic treatment of the subject and attempts an organization of the material of child study. In his own words, his aim is "to present a consistent and intelligible outline of the mental development of the child from the standpoint of mental function." The author's point of view is derived from Prof. Dewey, who has also contributed the introduction. With Prof. Dewey's statement that "the true value, scientific and practical, of child psychology is not that we may know this or that fact about children, but that we may know how the growth of a human being proceeds; what helps and what hinders; what furthers and what arrests it, and how these results are brought about," all students of the psychology of childhood will, of course, agree. But from the statement that "what we need for both scientific and educational purposes is *to get rid of externality* (italics the editor's) in psychology" we must dissent, and it is because Mr. King has so well succeeded in doing this, that he seems in the first half of the book to have lost sight of the real living child. Child Study has, as yet, scarcely reached that stage of development when it can afford to dispense with the externality and collecting of facts with which all sciences have begun, and the more immediate need seems to be *more* and *better* observations and the co-ordination of external facts with internal processes of development. Mr. King rejects all the usual modes of infant observation, inaugurated by Preyer, and holds that neither the time nor order of appearance of activities of the various senses or emotional attitudes is of any importance and, if it were, would be impossible to observe, because the first manifestations of mental processes are entirely undifferentiated. The entire child is essentially in every reaction and it is only to the observer that he seems now in a state of emotion, now in one of cognition, etc.

For Mr. King, the problem is not when nor in what order experiences occur but "*how* does experience differentiate into volition and cognition and under what circumstances does the emotional attitude stand out in experience; and what must such an attitude mean in the undeveloped consciousness?" The time when consciousness appears is considered unimportant, the theory being concerned not with when consciousness appears but what is its character when it does appear. The starting point of mental development lies in the baby's capacity for movement; and, for convenience, Preyer's classification of early movements into instinctive, reflex and impulsive is used. All these movements are alike in being responses to stimuli but differ in the degree of co-ordination that lies back of them. Mental processes

arise in the child as functions of the co-ordination of these imperfectly adjusted movements. This *functional relation of consciousness* to activity is, from Mr. King's point of view, the fundamental principle in child study, and from this principle he develops his system with great logical clearness. But the book leaves us with a stronger impression of its logical development than of its relation to the child. In getting "rid of the externality" it seems to have got rid of the baby also, and we are left with only a schematic concept of a being with three modes of muscular reaction to stimuli and a hypothetical consciousness, developing from one of them, the impulsive, at an uncertain period. Sensations and emotions, as such, do not exist for this little being; and crying, smiling, etc., are not to be interpreted as manifestations of pleasurable or painful states, but merely as reactions to stimuli along the line of the least resistance to the motor discharge, because they are, being instinctive in their first appearance, "purely automatic affairs and do not stand for any conscious evaluation as they do in the adult," and though they may sometimes represent feelings of comfort or discomfort, they also occur where there "can be scarcely any definite feeling tone to consciousness." Granting Mr. King's point of view, his theory is consistently worked out but it does not seem to adequately explain the facts. In the chapters on Inhibition, Imitation, Moral Ideas of Childhood and Children's Interests, Mr. King deals with the material of child study and brings us in contact with the living child who, if not developed from the schematic baby, has, at least, been adopted after he has reached the conscious stage.

But whether we agree with Mr. King's point of view or not, the book is suggestive and helpful as an attempt to systematize the material of child study, and the chapters dealing directly with this material and the carefully selected bibliography of Children's Interests cannot fail to prove an aid and stimulus to teachers and to those interested in the study of children.

Mr. Kirkpatrick's book, though dealing with the same subject and material as Mr. King's, is entirely different in both purpose and treatment. No original material and no theory of any kind is presented. The book is not a contribution to psychology, but a series of lesson papers designed as a text book for normal schools and colleges, and is based on the author's practical experience in teaching. Each chapter contains a partial summary of the work which has been done on the particular subject under discussion, supplemented by a list of exercises for students, and suggestions for reading from the best literature relating to the topic. The scheme of each chapter, if faithfully carried out, can scarcely fail to give the student an intelligent view of the material and methods of child study. The book contains an introductory chapter on the Nature, Scope and Problems of Child Study, chapters on Physical Growth and Development, Native Motor Activities and general Order of Development. The larger part of the material is grouped under the general heading of Instincts. There are chapters on the individual, parental, social and adaptive instincts, the latter including imitation, play and curiosity; the regulative instinct, under which moral and religious tendencies are discussed; a somewhat mixed chapter, dealing with the constructive, collecting, æsthetic, migratory and rhythmic instincts which are considered as resultant rather than primary instincts, and lastly, the subject of language is considered as the expressive instinct. There is a brief chapter on Heredity and chapters on Individuality, Abnormalities, and the Application of Child Study in Schools. These last are, in accordance with the purpose of the book, pedagogical and of practical value to teachers. As a whole the book will be a helpful text book, because it presents in compact form an

outline of the work which has been accomplished in child study, but it lacks organization and completeness. Its chief defect is that, in following closely the outline of what has been done, it fails to show the scope of the subject and how much yet remains to be done. It ignores the many wide gaps in the field of child study, *e. g.*, problems of will and attention, and needs to be supplemented by a broader view of the subject.

The title of Mr. Judd's book is a misnomer and, for this reason, the book is disappointing to the reader whose expectations have been raised to look for a contribution to genetic psychology. The book deals neither with the material of genetic psychology nor does it, like Mr. King's, offer any system for unifying the material, and the author betrays no knowledge of the literature of the subject. The book should really be entitled Some Problems in Pedagogy, and in his treatment of these, Mr. Judd makes some use of the genetic method. The first chapters of the book deal with teacher study, which is considered of much greater importance than child study, and great emphasis is laid on the need of introspective study on the part of teachers as a remedy for the mental stagnation into which they are liable to fall as a result of routine work. The illustrative material for this section is drawn chiefly from the well known diagrams of optical illusions familiar to all laboratory students. There is some discussion of educational ideals and their development, chapters on reading and writing and the idea of number. The chapters on reading and writing are the best in the book, and that on writing is the result of an experimental analysis by the author of the motor factors involved in the process. These experiments have been carefully worked out and are both interesting and suggestive. As a contribution to pedagogical psychology the book will be appreciated by teachers for its practical suggestiveness and clear statement of the principles underlying the experimental part of the work. THEODATE L. SMITH.

Rousseau and Naturalism in Life and Thought, by WILLIAM HENRY HUDSON. (The World's Epoch-Makers.) Charles Scribner's Sons, New York, 1903, pp. 260.

The first part describes the man, his early life, his relations to Madame de Warens, the hermitage, his persecutions and wanderings and death, and the second part gives a brief epitome of his works, with a final chapter on his significance as epoch-maker.

Life of Robert R. McBurney, by L. L. DOGGETT. F. M. Barton, Cleveland, 1902, pp. 280.

This in some sense supplements Dr. Doggett's first volume of the history of the Young Men's Christian Association, for up to his death, in 1898, he, more than any one else, was the leader of the organization.

The Religious Work of the Young Men's Christian Association. Principles and Methods. New York, 1903, pp. 88.

This is on the whole the best general manual of this association, giving a very brief and concise account of all its many lines of activity—shop meetings, railroad classes, meetings for boys, including the Yoke Fellows' Band, Personal Workers' League, Active Members' Club, Volunteer League, etc.

Poems of Tennyson, edited by Henry Van Dyke and D. Laurance Chambers. Ginn and Co., Boston, 1903, pp. 490.

Tennyson himself seems to be submitting to the inevitable tendency to be furnished with elaborate notes, introduction, etc., which here equal in number of pages and far exceed in matter the rather meagre

selections of text from his poems. The type and page of the text are all that could be desired, but would it not have been better to have omitted all the technique and erudition and to have given the reader twice as many poems in the space and for the same money, especially if the purchaser be, as is evidently intended, a student?

The Modern Age, by PHILIP VAN NESS MYERS. Ginn and Co., Boston, 1903. Part II, pp. 650. Price, $1.25.

This second and larger volume begins with the discovery of America and comes down to the present time. Unique as it is, the work as a whole is altogether admirable and might well be regarded as indispensable for every high school and college classroom in history.

The History of Mediæval Education, by SAMUEL G. WILLIAMS. C. W. Bardeen, Syracuse, 1903, pp. 195. Price, $1.12.

This work begins with Mohammedanism and treats the age of Charlemagne, the revival of learning in the ninth century, its relapse in the tenth and eleventh, the new revival in the twelfth, with the rise of the mediæval universities and the studies in them. The pages are interspersed with nearly thirty portraits and various other illustrations. It is a valuable little guide through an obscure period and will be welcomed by every teacher of education. Although the page and type are clear, the make-up of the book is unpleasantly suggestive of cheapness.

Origin and Development of the Common School System of the State of New York, by ANDREW S. DRAPER. C. W. Bardeen, Syracuse, 1903, pp. 107.

An Old English Grammar, by EDWARD SIEVERS. Ginn and Co., Boston, 1903, pp. 422.

La mare au diable, by GEORGE SAND. Ginn and Co., Boston, 1903, pp. 152.

Nietzsche und die deutsche Kultur, von ALBERT LANG. J. P. Bachem, Köln a. Rh., 1903, pp. 59.

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